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# COMPETITIVENESS OF NEW MEXICO NATURAL GAS

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HEARING  
BEFORE THE  
SUBCOMMITTEE ON MINERAL RESOURCES  
DEVELOPMENT AND PRODUCTION  
OF THE  
COMMITTEE ON  
ENERGY AND NATURAL RESOURCES  
UNITED STATES SENATE  
ONE HUNDRED FIRST CONGRESS  
FIRST SESSION  
ON THE  
COMPETITIVENESS OF NEW MEXICO NATURAL GAS

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FARMINGTON, NM, JUNE 29, 1989



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# CONTENTS

## STATEMENTS

|                                                                                                                                                                    | Page |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Bingaman, Hon. Jeff, U.S. Senator from New Mexico .....                                                                                                            | 1    |
| Craig, Dr. John, senior vice president, marketing, El Paso Natural Gas Co., El Paso, TX .....                                                                      | 51   |
| Eck, Theodore R., vice president, planning, economics and development, Amoco, Chicago, IL .....                                                                    | 6    |
| Gibson, Daniel E., vice president, gas supply, Pacific Gas and Electric Co., San Francisco, CA, accompanied by Gene Satrap .....                                   | 103  |
| Holland, Michael C., executive vice president, Mojave Pipeline Co., El Paso, TX .....                                                                              | 70   |
| Krenz, Douglas, vice president, planning and development, Transwestern Pipeline Co., Houston, TX .....                                                             | 61   |
| LeMay, William J., director, oil conservation division, energy minerals and natural resources department, Santa Fe, NM, accompanied by Ron Merrett .....           | 3    |
| Little, Sylvia F., president, Little Oil and Gas, Inc., Farmington, NM .....                                                                                       | 88   |
| McHugh, Jerome P., Jr., president, Nassau Resources, Inc., Denver, CO., and chairman, Natural Gas Committee, Independent Petroleum Association of New Mexico ..... | 26   |
| Owen, Ray, manager, regional operations, Meridian Oil, Inc., Farmington, NM .....                                                                                  | 102  |
| Saunders, J. Greg, manager, gathering and processing services, Northwest Pipeline Corp., Salt Lake City, UT .....                                                  | 84   |
| VanDerGraaf, Darwin, executive vice president, New Mexico Oil and Gas Association, Santa Fe, NM .....                                                              | 37   |

## APPENDIXES

### APPENDIX I

|                                         |     |
|-----------------------------------------|-----|
| Responses to additional questions ..... | 125 |
|-----------------------------------------|-----|

### APPENDIX II

|                                                    |     |
|----------------------------------------------------|-----|
| Additional material submitted for the record ..... | 163 |
|----------------------------------------------------|-----|



# COMPETITIVENESS OF NEW MEXICO NATURAL GAS

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THURSDAY, JUNE 29, 1989

U.S. SENATE,  
SUBCOMMITTEE ON MINERAL RESOURCES  
DEVELOPMENT AND PRODUCTION,  
COMMITTEE ON ENERGY AND NATURAL RESOURCES,  
*Farmington, NM.*

The subcommittee met, pursuant to notice, at 2:30 p.m. at San Juan College, 4601 College Boulevard, Farmington, NM, Hon. Jeff Bingaman, presiding.

## OPENING STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

Senator BINGAMAN. This is a hearing of the Subcommittee on Mineral Resources Development and Production of the U.S. Senate Energy and Natural Resources Committee. The hearing is going to look at the issue of competitiveness of the natural gas industry, particularly here in New Mexico. We have an impressive group of witnesses to address this set of issues. We have 11 witnesses who are going to testify in three different panels. I want to ask each witness to limit his or her remarks to something in the range of five minutes, so we will have time to ask a few questions and also complete the hearing no later than 5:00 o'clock.

If anyone in the audience would like to submit their testimony, written testimony, we will be glad to take that, and we will leave the official record of the hearing open for another two weeks, so that testimony can be submitted.

I hope we will have a very productive hearing. I would like to go through a short description of the background of this before we start with the witnesses. I think you could say that in 1989 we're in a period where natural gas is coming into its own as a resource in the nation's energy mix. A significant number of events have occurred over the past six months that bring attention to the importance natural gas plays in meeting our future energy needs, particularly here in New Mexico.

Let me review some of those events very briefly. Of course, there has been the continued progress of the enhanced oil recovery project in California, which is resulting in increased demand for natural gas.

There has been legislation introduced which extends the tax credit for coal seam gas.

And Pennzoil recently announced a test well program for coal seam gas in the Raton Basin.

California Energy Commission issued a study questioning the reliability of New Mexico's natural gas supplies.

El Paso has announced a planned expansion of its system.

FERC granted an optional certificate for Mojave pipeline project.

FERC has issued controversial policy proposal on gas supply and gas inventory charges.

President Bush announced a clean air plan that focuses significant new attention on clean-burning fuels, such as natural gas.

Transwestern Pipeline has announced expansion of its pipeline.

And natural gas decontrol legislation has passed the Senate and I believe maybe today will pass the House. If not today, in the next day or two and go to President Bush.

As you can see natural gas has come to the forefront as an energy source of the future. I think it is an energy source that will take us well into the 21st century.

My purpose in holding the hearing in Farmington is that New Mexico stands as a leader in the United States in natural gas development and production, propelled recently by the tremendous reserves of coal seam methane gas as well as the traditional and more conventional natural gas production that has long been the foundation of our economy in this part of the state.

Let me review a few problems that we face. The first and foremost problem facing the oil patch, the industry, is, of course, price. Trying to achieve a stable price for crude oil at a level sufficient to keep rigs operating and allow a profit at the same time. Once again this year legislation was introduced to establish an oil import fee that could help to stabilize the price of crude oil. However, the opposition to that fee remains the same as before; essentially the non-producing states do not relish increased prices and still remember the days of what they consider windfall profits from the industry.

Next let me discuss for a moment the economic incentives. We need additional economic and tax incentives to encourage exploration and drilling activities. Without these incentives it would be very difficult, if not impossible, to raise large amounts of capital necessary to finance drilling projects.

I have joined with Senator Boren and several others in the Congress in introducing legislation entitled "The Domestic Energy Security Act of 1989" that broadens the incentives currently available to the industry. Incentives include, for example, the extension of the nonconventional fuels tax credit, an important incentive for the development of coal seam methane gas and gas found in tight sands formations. I think we have a better opportunity on passing some of this incentive legislation than we do of enacting anything in the nature of import fees, since President Bush has recommended a package of production incentives as well. With the passage of natural gas decontrol legislation, I hope the Congress can now look seriously at some of these incentive issues.

The third issue facing the industry, and one we are going to discuss today in a lot of the testimony, relates to how we find a market for our gas; and how we can be able to sell the gas at a competitive price. We will hear from producers and pipelines, as

well as major purchasers today who can shed some light on the issue.

I hope we can look at the specific issue of marketing opportunities, and how we in New Mexico can compete more effectively against both domestic and Canadian producers. I am particularly interested in finding a way to insure that our independent producers have access to their traditional markets where they sell natural gas, and there is sufficient pipeline capacity to move that gas.

What I have described is a broad agenda for the hearing. I think we can make headway in learning something about these issues. I look forward to the testimony of our witnesses.

Why don't we go ahead and begin with the first panel. The first witness that I'd like to call on is Mr. William LeMay. Bill is Director of the Oil Conservation Division, Energy, Minerals and Natural Resources Department in Santa Fe. Bill, you have Ron Merrett with you today. We are very pleased to have both of you here, and we look forward to your testimony. I compliment you for the good work that you have been doing in trying to insure an adequate market for gas here in New Mexico. Go right ahead.

**STATEMENT OF WILLIAM J. LeMAY, DIRECTOR, OIL CONSERVATION DIVISION, ENERGY MINERALS AND NATURAL RESOURCES DEPARTMENT, SANTA FE, NM, ACCOMPANIED BY RON MERRETT, DIRECTOR OF NATURAL GAS PROGRAMS, SANTA FE, NM**

Mr. LeMAY. Senator, first we want to thank you and your staff for the effort you have made on behalf of New Mexico on the gas decontrol measure and also your efforts to make gas more marketable. Again, I thank you, Senator, for all the work you have done in bringing the Senate Energy and Natural Resources Committee to Farmington to take testimony on this vital issue.

As you and your staff and the audience are familiar with, we have a gas marketing division, which Ron Merrett heads, and he will have a few words to say after I get through. Our main efforts and areas of concern, of course, are in the oil patch. If I remember right, about two and a half years ago we were here giving testimony, and the question was asked I think of Senator Domenici or he asked the question, "How the oil patch was faring," and there were zero rigs operating at that particular time. We are happy to say today at last count we have 22 active rigs in the San Juan Basin, 19 of which are drilling for coal seam gas, which is a bright spot in what otherwise is still a rather dismal picture for the oil patch for our state and other oil producing states in the country.

So the efforts that you are undergoing or involved with, the tax incentives, are certainly critical to our industry and would be the extension of section 29, Fuel Tax Credit for Coal Seam Gas. May I suggest if that tax could be extended through the drilling phase, since we anticipate a total of approximately 1,500 wells in the San Juan Basin being drilled between now and January 1, 1991, which is only a year and a half away. We are a long ways from that right now, but if all the plans materialize, we hope to see that many wells drilled.

Senator BINGAMAN. Again, 1500 proposed?

Mr. LEMAY. Yes, 1500.

Senator BINGAMAN. Between now and when?

Mr. LEMAY. Between now and when the tax credit is due to expire, which is January 1, 1991, a year and a half from now.

The other element there, of course, is when that tax credit on producing wells ends. It lasts until one month the year 2000. Of, course any extension of that would be helpful. If that would not be feasible, might I suggest a possibility of making the tax credit applicable to just the gas proration unit, which would allow us possibly to do some in-field drilling, and those proration units that could take an in-field well and still have an in-field well subject to the gas tax credit. I can certainly make our comments and suggestions available to you from our staff in that regard.

But the figures that are available is the fact that we have 400 trillion cubic feet of this type of gas available in the United States and in place. That's a large number. I think the DOE report came out with something over 1000 trillion cubic feet of gas. That's a resource space. How much of this through technology, and through tax incentives, and through normal drilling will be turned into production is a matter for the future to discuss.

But, naturally, the more of this space that we can convert to usable reserves, producible reserves, especially in light of President Bush's recent speech in which he recognized the importance of non-pollutable energy sources, which natural gas is one. The more of this that can be converted, the better our economy will be, and I think it will help get the oil and gas patch back into operation.

Currently we project in the neighborhood of possibly even 20—there are 50 trillion cubic feet of gas in place by recent reports in the San Juan Basin. What percentage of that is recoverable is anyone's guess. But if you just take normal 50 percent of that, that is 25 trillion cubic feet. By conservative calculations we could double our state's current reserve of natural gas through the coal seam development. Very critical element for our state, and I think the national economy.

In regard to other elements that impede the flow of our gas, we have been involved before the FERC in Washington, the California Public Utilities Commission in California, on issues that we feel are critical to the movement of our gas. Mainly a cost-base backhaul rate so that we can get our gas economically moved to areas in the east where there are developing markets as well as California. At the present time the only economical way that we know of is to move the gas west, and therefore that is the California market. Historically we have been supplier of that market, but it would certainly broaden our opportunities if gas could be moved economically east on cost-base backhaul rates.

Again, we are active in the FERC deliberations on rate reform. We feel that rates should be based on actual usage as does, I think, the FERC. We feel that there are certain issues FERC needs to address, like capacity brokering. There is some very strong need for reform in this area so that producers, and consumers, can ship gas on a firm basis through the existing interstate pipeline systems.

Other issues, such as the modified fixed variable calculation of how rates are formed is under scrutiny, and we have input into that process also. I urge you and the other senators and representa-



tives in Washington to do what you can to expedite this process of rate reform, which the FERC has agreed to undertake.

One of the more critical elements of our program has been of the creation of what we used to call the "322 Committee." Many of our efforts in state government are headed by Ron Merrett, who is the director of the interstate gas markets, as well as a bureau chief of gas marketing.

So with that, with your indulgence, I would like Ron to continue.

Senator BINGAMAN. We would be glad to hear from you, Ron.

Mr. MERRETT. Thank you, Senator. I appreciate the opportunity.

As you are aware I'm sure, the New Mexico legislature funded the state gas marketing bureau in 1987. They expanded the funding in 1988, and again expanded it, in fact doubled it, for 1989. So, we have enough money to do, I think, some things which will help the industry here in the state.

Basically what we do in gas marketing is we have set up a resource space in Santa Fe in terms of a library, of statistics and pipeline producer information. We provide marketing information, which is available to the industry. We hold the marketing conferences three or four times a year in places such as Farmington, Hobbs, Roswell and, of course, in Santa Fe, which is our major conference.

We publish a monthly newsletter, which we send out nearly a thousand copies, and there is no charge for that, throughout the state and beyond the state to inform the industry and the public of what is going on in current events in the New Mexico area. And we keep track of developments on the national level, which will affect New Mexico.

We also maintain a fairly frequent contact with all sectors of the New Mexico industry. Sometimes maybe a little too frequent for some of them, but we do keep in touch with the pipelines and with the consumers.

One of the major functions we have recently, with the additional funding we had, is to be involved in the regulatory scene in Washington, D.C. and in California. And things such as the energy commission study, which you referred to in your opening remarks. We are very much involved with the energy commission in California, and letters such as you and other senators wrote were very helpful in putting that thing in its proper perspective. We do appreciate your efforts there.

We also keep in touch, as you and your staff know, with the congressional delegation and staff in Washington, D.C. But we try to be as active as we can at the federal and state level in the regulatory scene. We are also undertaking some economic and legal studies to see whether there are legal remedies for some of the situations which New Mexico has been faced with in recent years in marketing of its natural gas. Those studies are ongoing and will be complete later in the year.

So we plan with the funding we have now to continue and expand this effort, and hopefully we will be able to do some things as a state with the state government, which individual corporations or individual producers may find more difficult to do for themselves. That's the extent of our role.

Senator BINGAMAN. Thank you very much. I appreciate that. I will have questions to ask after we get through the rest of the witnesses.

Mr. Theodore Eck, Ted Eck, is Vice President of Planning, Economics and Development with Amoco. Ted is located in Chicago, Illinois and testifies before our committee, the full Energy Committee, frequently in Washington. We have always respected his point of view on economic issues, impacts on energy and very pleased you came to Farmington today.

Go right ahead.

**STATEMENT OF THEODORE R. ECK, VICE PRESIDENT, PLANNING, ECONOMICS AND DEVELOPMENT, AMOCO, CHICAGO, IL**

Mr. Eck. Thank you. I am pleased to be here. It was 55 degrees this morning in Chicago. This is a real change.

I think I am probably as close as you can get to a natural gas economist. I have specialized in this field for a number of years. The senator said he would like me to talk about gas markets. That is a nice thing to talk about; the gas markets are good.

Gas sales have gone up about 5 percent a year the last couple of years. I think we will do that well this year, and we are going to continue to sell more and more gas. One reason we are selling gas is because it is clean, and we are getting to recognize that it is clean. We are getting people to pay for it, and we are going to get a premium for gas because it is clean.

Also it is a good fuel for the greenhouse effect. We are getting a lot of new support for gas because it does release about half as much CO<sub>2</sub> in the air as coal for an equivalent energy production. So we are getting a lot of environmentalists who have picked up on natural gas for this greenhouse benefit as well.

Now, I indicated that we are selling gas into new markets. One market that we are picking up, a big-ticket item, is electricity generation. We almost lost that market to coal and nuclear energy. Now we are getting it back, and I think we have it all back now. Essentially all of the new electric power turbines going in are gas-fired. Not only are we getting the market, the market itself is growing a lot faster than most anybody would have guessed.

This market is growing about twice as fast as forecast. It is growing at about 4 percent to 5 percent per year. It is a big market. It is bigger than forecast, and therefore the electric power companies have been caught without enough capacity. They are out there buying generators as fast as they can buy them.

I just talked to a big supplier of generators last week, and he said he has now a two-year backlog on turbines. We are having to import turbines from Japan and from Germany. We just cannot make them as fast as they are being sold in the United States.

What does that mean for gas? It means these services are going to be sold. They have not bought the gas for these turbines. There is a big market out there to supply electricity that is going to be generated from gas-fired facilities.

Another market we are picking up is the industrial market; that is, steel, automobiles and chemicals. Here it is primarily coal generators. Where we use gas to make steam for industrial use and

also electricity for the industry or for sales into the electric power grid. That is going to be a big market.

So what we are really seeing is with these new markets we are going to have a market that is two to three Tcf larger than we enjoy today. So we are going to have a 20 Tcf market for natural gas in the not very distant future.

Then a new thing has just happened to make the market to look even more attractive, and that is President Bush's Clean Air Bill, which is being written right now, and that Senator Bingaman made reference to. That is going to do two things for us. One section is the acid rain section, which is not only going to fortify these markets for electricity for new generation, but we are going to pick up a lot of additional market in old electric power units where they are presently burning coal. Because they are going to coal-fired, natural gas along with coal, in order to reduce the acid rain; that is the sulfur dioxide and nitric oxide emissions. That is going to be an additional market.

Another market that I am hopeful of picking up is gas vehicles. There is a program to build approximately 1 million vehicles per year which would be propelled by something other than gasoline. We hope that something other than gasoline will be natural gas.

Our competitor, quite frankly, is methanol. Methanol is imported. It is not produced in North America. We believe we can beat methanol because of where it comes from and the fact that it is a polluting fuel itself. It has all kinds of problems; whereas natural gas only has good emissions and does good things and also it is a whole lot cheaper.

In any event, that is a new market, and that is going to be at least be a half Tcf, and down the road one Tcf additional demand for the transportation application of natural gas.

Now where is this gas going to come from? We found a lot of gas here in the Rocky Mountains, and we are going to produce it. As you know, we are getting very quick drawdowns of gas from the Gulf Coast. My general judgment is we are going to be hard-pressed in the United States. We are going to have to work very hard to meet a 20 Tcf, 21 Tcf market.

We are going to need all the gas that we can produce in the Rocky Mountains. We are going to need all the gas we can get in Canada. We are going to have to go up to Alaska to get gas to meet these markets. Because the market is going to be there, and gas is going to be the preferred fuel. The nation will be a lot happier with gas supplied from North American than we are oil and methanol imported from overseas.

Specifically here in New Mexico our company is very optimistic about coal seam gas. We are optimistic about the San Juan Basin. We expect our own production to increase from 300 million to 500 million a day over the next two or three years. We will drill more wells as the market develops.

One thing, of course, we need is more pipeline capacity. We need more pipeline capacity all around the United States. More pipelines mean new markets, mean more markets for us. New market opportunity also means more buyers for our gas.

Also we hope that more pipelines mean lower pipeline transportation costs and ability to get into the pipeline. Quite frankly it is



getting tough to get in pipelines at all times. We need firm delivery. We also need dependable interruptible delivery at a reasonable cost.

So there are things that have to be done in the pipeline area, and those things are rate reform and additional lines to be constructed. But we basically think that the market for natural gas is very, very bright; and we will be producing substantially here from the Rocky Mountains, and we are going to have to drill more wells. We are just going to have to drill a whole lot more wells. Reference is made to that.

My general forecast is, frankly, that the price of gas is going to double to make these wells attractive, and we are going to have to triple the number of wells we drill. That is going to happen. I really believe that we are going to double the price of gas and triple the number of wells we drill.

The question is where are we going to drill those wells? And we are going to have to be cost competitive here in the Rocky Mountains. This is an expensive place to drill, and we are just going to have to maintain vigilance on cost to make sure that we are cost competitive with the rest of the United States, indeed the rest of North America to get our share of the market.

Thank you.

[The prepared statement of Mr. Eck follows:]

**New Mexico Natural Gas  
Its Importance in the U.S. Gas Market**

**T. R. Eck's Testimony Before  
The Subcommittee on Mineral Resources Development and Production**

**June 29, 1989**

After several years of declining gas demand in the United States, the consumption of gas has begun to increase. Gas consumption has increased at nearly 5 percent per year during the last two years. Further increases are expected, and the market appears poised for a period of sustained growth. Several factors are responsible.

**Natural Gas is Clean**

Natural gas is the cleanest burning of all fossil fuels. It is essentially sulfur-free and contains no ash or particulate matter of any kind. With excess air, it burns to carbon dioxide and water. Per unit of heat generated, it produces somewhat less carbon dioxide and more water than the combustion of oil, and much less carbon dioxide than the burning of coal.

**Gas Market for Electricity Generation**

During the late 1970s and early 1980s, significant volumes of natural gas were displaced from burning in utility boilers as large coal-fired and nuclear power plants were constructed. That era has come to an end. Utilities are faced with growing uncertainty regarding acid rain legislation and cost escalation and construction delays for nuclear plants, and their ability to obtain public utility commission agreement for putting large new base load plants into the rate base. The remaining coal and nuclear plant construction projects are being completed, but no new nuclear plants and few new coal plants are being planned. At the same time, U.S.

electricity sales have grown at a rate of 3.5 percent over the last 5 years, and about 4.5 percent over the last two years. Electric power growth rates are increasing even faster in some parts of the country, and not enough time is available for utilities to plan and construct large new base-load coal and nuclear plants. As a result, utilities are now ordering new gas turbines for peaking purposes and examining the use of new gas-fired combined cycle units for intermediate and base load applications. These units can be built in modules of 100 to 200 megawatts in two years or less, and produce much less air pollution--sulfur dioxide, nitrogen oxides, and particulates--than coal-fired units.

#### Industrial Market For Gas

The industrial market for gas also increased at a rapid rate since the end of the 1980-1982 recession. Heavy U.S. industry--steel, automobiles, petroleum refining, and chemicals manufacturing--which had been severely impacted by the recession, rebounded rapidly after the recession ended.

One of the key growth areas in the industrial market is cogeneration, the simultaneous production of steam for plant use and electricity for plant use and sale to utilities. Many of the cogeneration projects recently built use gas as fuel, and more are planned. The purchase of power from non-utility generators will help utilities meet demand growth in the future.

What does all this mean for the gas industry, particularly New Mexico producers? What it means is that there is potential additional demand in the United States for 2 to 3 TCF of natural gas that will develop in the

next 5 to 10 years, primarily for the generation of electrical power. Many of the combined cycle and gas turbine units have been and are being ordered, as electric power capability becomes squeezed in many areas. For many of these new units, long-term supplies of gas have not yet been purchased.

#### Environmental Advantages of Natural Gas

President Bush's clean air proposals will also increase the demand for gas. The President's plan gives states and utilities the option of choosing the most effective, least-cost technology to achieve emission standards. Many utilities will find that their cheapest option is to switch to gas. This may be done by co-firing gas in coal boilers, by burning gas in existing idled gas-fired boilers, or by building new gas-fired turbines or combined-cycle units to replace high sulfur coal burning. The Bush plan also calls for cities to mandate the use of alternative fuel vehicles. Natural gas fueled vehicles will be a more attractive alternative than methanol fueled vehicles for fleet use, and will produce lower hydrocarbon and carbon dioxide emissions. Compressed natural gas for vehicular fuel could add up to 0.5 TCF of demand for gas by 2000.

#### Natural Gas Supply/Demand Balance

The increased demand for natural gas will develop, but what about the supply? Increased demand for gas will result in higher gas prices. The effect of higher prices will be to pull gas out of lower-valued uses, such as interruptible boiler fuel uses, where it can be displaced by oil-burning, to higher valued uses where the gas is needed because of its clean burning characteristics. Higher prices will also result in increased

drilling for gas, and this in turn will result in more reserve additions and production. Amoco projects that production in the Mid-Continent, New Mexico and Rocky Mountain areas will increase. Even with this growth, every responsible study shows that importation of additional Canadian gas will be required to offset declining Gulf of Mexico and Gulf Coast production.

Relative to New Mexico, Amoco projects that production of coal seam gas as well as conventional gas will increase. Amoco's own production capability in the San Juan basin is 300 MMCF/D in 1989 and is projected to increase to more than 500 MMCF/D by 1992.

#### More Pipelines Will Be Needed

For the entire United States, expansion of the transportation system will be a critical element in getting supply and demand in balance. One or more additional pipelines will be needed to connect Rocky Mountain and possibly San Juan basin gas supplies to the West Coast. This may cause a shift in the distribution patterns of other gas, but these changes must be driven by market economies and efficiencies. Amoco believes that natural gas transportation facilities will be developed as needed to move the gas from where it is produced to where its consumption is required.

#### Greater Flexibility is Required

The system for producing, marketing and transporting natural gas has a great deal of flexibility now, but even greater flexibility will be required in the future. Demand for natural gas varies seasonally, and, despite the use of gas storage and fuel switching, producers must vary



their production over the annual cycle. More effective use of storage capacity and greater fuel switching capability probably will be required in the future.

Some problems have arisen as a result of the efforts of the Federal Energy Regulatory Commission (FERC) to increase access to interstate natural gas transportation, and moves by state commissions to alter regulation of local distribution companies (LDCs). We are optimistic that these problems will eventually be ironed out, and some have been already. In particular, improvement is still required in providing access to available space in interstate pipelines for all potential transporters of gas. Contracting among producers, pipelines and customers must be permitted to provide for a balancing of production, transportation, and market risks.

Amoco believes in market-driven solutions to such problems. On balance, the free market adjusts faster and more effectively than any well-intentioned regulatory solution.

A bill decontrolling the wellhead prices of all the remaining controlled categories of natural gas is nearing signature. Full wellhead decontrol will eliminate the remaining vestiges of price controls which have been sending wrong market signals to producers and consumers for more than four decades.

#### The Future For Natural Gas Is Bright

Amoco is confident that natural gas, which supplies one-fourth of the energy needs of the United States, will continue to grow in importance.

Natural gas is our cleanest fossil fuel. Our country has abundant resources of gas and established infrastructure for developing and moving it to markets. As demand for gas increases, the free market will provide the right signals to producers, transporters and consumers to assure that the gas will be produced and will be allocated to the most important uses.

New Mexico's Permian and San Juan basins will continue to be key producing areas, and are situated to accommodate increased demand from either West or East. Amoco will continue to be very active in these basins, exploring for and producing conventional and coal-seam gas. Thank you.

T. R. Eck Testimony Before  
The Subcommittee on Mineral Resources  
Development and Production

Farmington, New Mexico

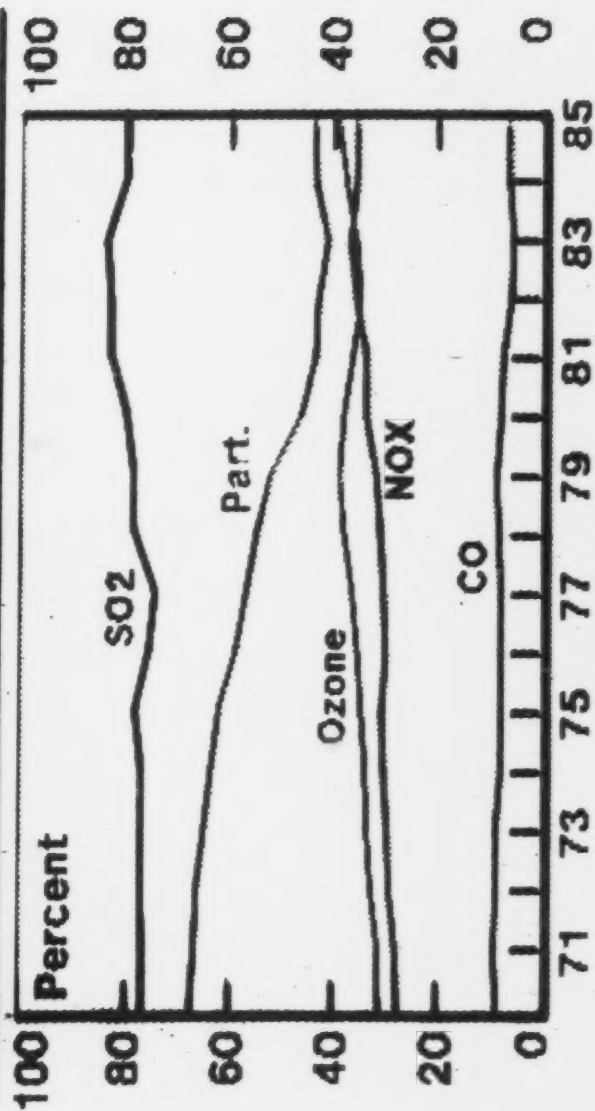
June 29, 1989

1. Advantages of Natural Gas
2. Utility and Industry Emissions % of the National Total
3. SO<sub>2</sub>, NO<sub>x</sub>, & Part. Emissions from 240 MW Coal Steam & Gas Comb. Cycle Plants
4. Flue Gas Scrubbing Costs
5. Desulfurization of Residual fuel Oil
6. Gas in the Transportation Market
7. U.S. Electric Utility Demand for Gas 3% Per Year Load Growth
8. Gas Supply/Price Relationship
9. Provisions of Texas Clean Air Bill
10. Lower 48 Natural Gas Reserve Additions (Ex. Revisions) vs. Gas Wells Drilled

## **Advantages of Natural Gas**

- Cleanest-Burning Fossil Fuel
- Plentiful Worldwide
- Readily Transported Over Land
- Can be Used in Gas Turbines for Power Generation
- Minimum Capital Cost for Boilers

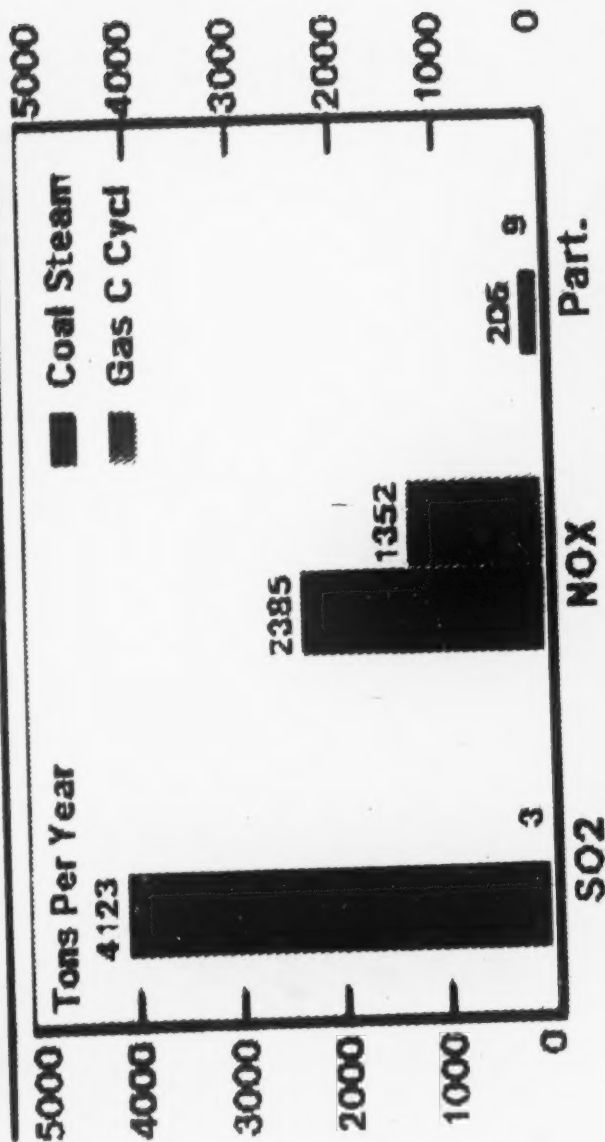
## Utility and Industry Emissions Percent of the National Total



Source: EPA



# SO2, NOX, & Part. Emissions from 240 MW Coal Steam\* & Gas Comb. Cycle Plants



\* With 85% Efficient SO2 Scrubbers

## Flue Gas Scrubbing Costs

| <u>Contaminant Removed</u> | <u>Cost, \$/MMBTU</u> |
|----------------------------|-----------------------|
| SOx                        | 2.00 - 2.50           |
| SOx and NOx                | 3.50 - 4.00           |
| SOx and NOx and CO2        | 4.00 - 5.00           |

## Desulfurization of Residual Fuel Oil

### Catalytic Desulfurization

1.0% to 0.5%

1.0% to 0.25%

Cost, \$/MMBTU

0.90

1.10

### Crude Oil Selection

1.0% to 0.3%

Cost, \$/MMBTU

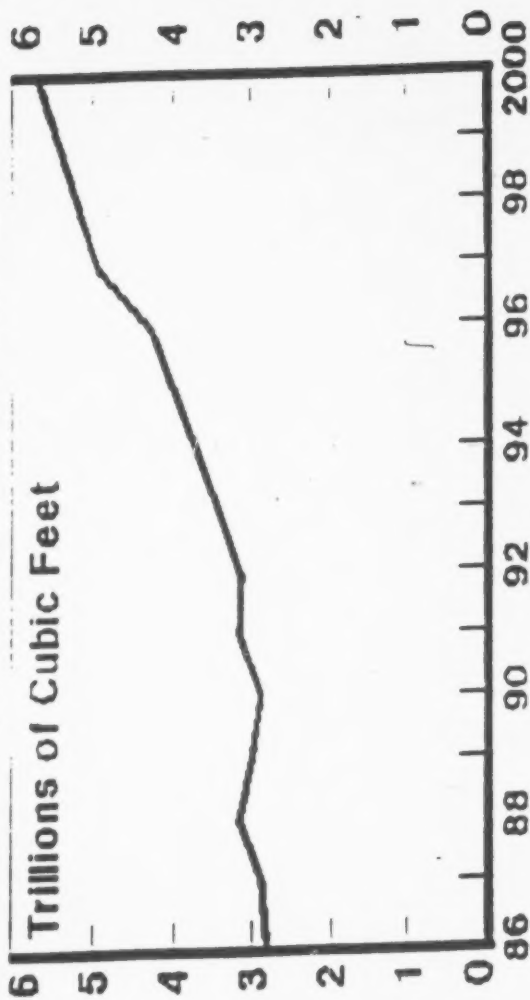
0.30

## **Gas in the Transportation Market**

- MBTE Usage Increased to 15% of Gasoline Volume.

- Use of Compressed Natural Gas in Trucks and Buses.

# **U.S. Electric Utility Demand for Gas 3 Percent Per Year Load Growth.**



Source: EIA

## Gas Supply/Price Relationship

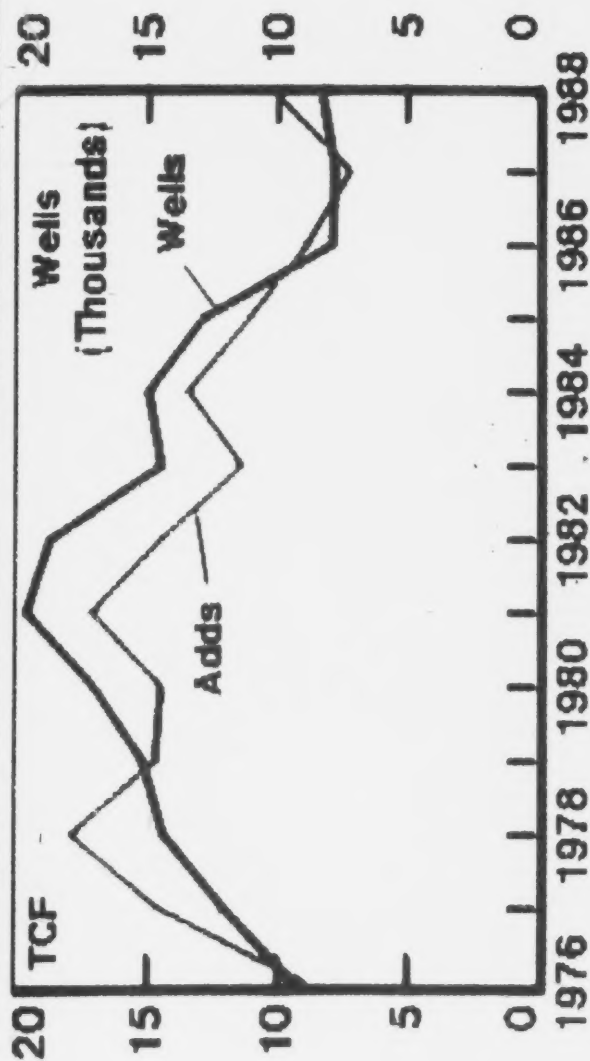
| Gas Price in 2000<br>1989 \$/MM BTUs | Supply, TCF |         |       |
|--------------------------------------|-------------|---------|-------|
|                                      | Domestic    | Imports | Total |
| 2.10                                 | 13.7        | 2.0     | 15.7  |
| 2.80                                 | 16.6        | 2.4     | 19.0  |
| 4.50                                 | 19.3        | 2.7     | 22.0  |



## **Provisions of Texas Clean Air Bill**

- CNG Mandate for State Vehicles
- Mandatory Gas Burning in Summer

**Lower 48 Natural Gas Reserve Additions  
(Excluding Revisions) Vs. Gas Wells Drilled**



Senator BINGAMAN. Thank you very much. I think that testimony that the price of gas is going to double probably encouraged a few people in the audience.

Let me go on, before I ask any questions, to our other two witnesses here.

Jerry McHugh is the President of Nassau Resources, Inc., in Denver, Colorado, and Chairman of the Natural Gas Committee Independent Petroleum Association of New Mexico in Denver. I know you have significant production here in San Juan Basin.

Jerry, go right ahead.

**STATEMENT OF JEROME P. McHUGH, JR., PRESIDENT, NASSAU RESOURCES, INC., DENVER, CO, AND CHAIRMAN, NATURAL GAS COMMITTEE, INDEPENDENT PETROLEUM ASSOCIATION OF NEW MEXICO**

Mr. McHUGH. Thank you, Senator. We too appreciate the opportunity to discuss natural gas matters and competitiveness issues for the State of New Mexico. The independents that I am speaking about in our association range anywhere from a small one, two-person company with several wells on production, to larger independents upwards of 200 million feet of gas per day production.

Most independents here in the San Juan Basin are the majority of the gas producers. Independents perform virtually all of the work, the exploration for, the drilling, production and now the marketing of oil and natural gas. Independents usually do not have downstream operations, and we usually drill in areas that may be tougher to drill in than a larger company would, or where the margins might be slimmer. We obviously have lower overhead costs, and we can take a few more chances in those areas.

What I want to talk about today, first of all, the interesting ally that I see forming with natural gas producers and environmentalists. Like Mr. Eck here said and the other speakers, there seems to be a push towards clean air and the greenhouse effect and all. I think that environmentally we are reaching those areas where we are going to have to use natural gas or else we are all going to suffocate to death.

I would like to say that some of these special interest groups, however, that do promote the environment need to be talking out one side of their mouth. They can talk about clean air and all, but then it is very difficult for us to drill on public lands. It is very difficult for us to go through all these land use, archaeological concerns and things like that. So I think these special interest groups need to focus on what they want to do. If they want domestic resources, then they need to let us drill on domestic lands.

My second point is on what this whole conference is about, and that is just focusing the awareness on New Mexico gas and gas across the country. For our California friends in the audience, New Mexico is the closest geographically and potentially largest supplier of gas to California. And I think that is something to be taken advantage of. I also believe that the general public needs to be educated as to the merits, value and use of natural gas, also its availability and environmental benefits and obviously the large domestic reserves.

FERC and your body, the Congress, needs to be educated by independent producers of some of our concerns. I formed, along with some other independents with our association and across New Mexico, some intervenor groups to go before the FERC on Northwest and El Paso rate cases. It is somewhat a cost efficient way for us to get involved, although it comes out of our bottom line. It comes out of our expenses. Utilities, pipelines can be involved in those kinds of cases, as you well know, and bill those lawyers' fees into their rate bases. We do not have that luxury.

I think that the coal gas reserves, like Mr. LeMay indicated, will undoubtedly increase the San Juan Basin gas reserves and deliverability.

My company is involved in a program in a 30-thousand acre unit up to seven wells we are drilling in Rio Arriba County. These coal gas areas will obviously be contributing to the current economy of the San Juan Basin, and what is going on now.

Along with the gas awareness issue, we support the El Paso planned expansion and the Mojave lines, because we feel that New Mexico gas would most likely move on these lines towards the California markets. For the markets going eastward, we are in favor of Northwest Pipeline and Enron's 311 line from Ignacio to Thoreau; whereby coal gas reserves will be able to move eastward. I will not comment on the WyCal or Kern River ones because I do not feel that would benefit New Mexico gas tremendously. Most of us New Mexico independents are solely in the San Juan Basin.

This brings me to the third point, and that is relief on rates. Because we are small producers as independents, we do not have a lot of large volumes which we can swing from Wyoming to the East, or from Texas to the Northeast. Most independents in the San Juan Basin have a limited, small, quantity of gas, and therefore we end up paying firm rates for interruptible transportation oftentimes. It used to be that we would sell gas at the wellhead. It was quite a good way to do it with the pipelines. Now, we sell at the tailgate of the processing plant at the California border or even backhaul the gas through West Texas to the East Coast markets.

We are now charged for a myriad of services, ranging from field fuel, field transport, dehydration, product extraction and we are also charged for shrinkage for moving our gas. Our netbacks are severely affected. I want to illustrate that. In my written testimony I submitted a graph. But prices have gone up somewhat. You cannot really see here but when the El Paso rates came into effect in July, 1988, the wellhead price decreased by—we are averaging about \$1 netback, but the mainline price went up approximately 15 cents. So our netbacks have been severely affected by the rates that we have to pay on the interstate pipeline systems, and in California, too.

In April my company sold gas to a sugar plant off of PG&E for \$1.86 at the California border. His commodity price was \$2.36. So he paid \$2.36 per Mcf for his gas. Of that price we received 99 cents. 87 cents of that was gathering and transport fees, plus he had a 50-cent transport fee in California. By the way, that is a good deal. That is a long-term rate off of PG&E in California.

Another customer of ours in California uses approximately 2 to 3 million feet a day of gas, and he has figured out that it is cheaper

for him to have the gas compressed at the California border, put it in a truck and moved to his plant in northern California than it is to go on the existing PG&E system. To me that is saying somehow we are not using our transportation facilities effectively. By the way he has resorted to burning oil, tires, walnut holes. All of these fuels are deplorable environmentally, as you know.

Like I said, independents are taking it on the chin on prices, netbacks to the wellhead. That is where we are right now. I guesstimate our netback is approximately \$1.15, \$1.25. It is not too good.

But I think that the FERC needs to look at rate reform, and see where we can go to have cost of service built into the rates that we use, and only those services we use. In some instances we do not use services on pipelines. We are charged for them but we are not using them. That is happening today, and that is not really fair for independent producers or for producers in general.

My fear in the future, though, is that, like Mr. Eck said here, the demand does increase substantially, and the deliverability is not there, that the government will come in and re-regulate our business. I think that is one place we do not want to go. We want to move into the future and to working with end users, end utilities to market our natural gas.

Thank you.

[The prepared statement of Mr. McHugh follows:]

DIRECT TESTIMONY OF JEROME P. MCHUGH, JR.

Presented before the Subcommittee on Mineral Resources Development  
and the Senate Energy and Natural Resources Committee

My name is Jerome P. McHugh, Jr., President of Nassau Resources, Inc. located at 650 S. Cherry Street, Denver, Colorado. Nassau Resources, operating affiliate for Jerome P. McHugh & Associates, is an independent producer which produces oil and gas in the San Juan Basin of New Mexico from 145 operated wells. The average daily gas production from these wells is approximately 10.5 million cubic feet per day. Approximately 40% of our gas is connected to El Paso's system with the remaining 60% being connected to Northwest Pipeline. Nassau has been operating in the Basin for over 25 years.

As an active independent producer in the State of New Mexico, I also serve as Chairman of the Natural Gas Committee of the Independent Petroleum Association of New Mexico. Through my alliance with IPANM, I have been able to have a direct impact on a myriad of regulatory and economic concerns affecting the state and specifically, the energy industry.

In late 1985, it became clear to us that in order to survive the sweeping changes affecting the industry, Nassau was going to have to change its way of doing business. At that time, we were



getting NGPA prices which were very high compared to today's gas prices, but we were shut in over 50% of the time. Our pipeline companies were willing to release the high cost gas on a temporary basis, but kept a "rubber band" on it to pull it back under contract in case they needed the gas for their own markets. This made making other marketing deals much more difficult as we could not ever guarantee a supply. Therefore, we decided to go for permanent release and abandonment of all our long term contracts. We relieved our pipeline companies of their take-or-pay obligations and went through a very lengthy and expensive legal process to achieve this. We were anxious to get on with our business. In the fall of 1986, we began marketing all of our gas to either marketers, LDC's or directly to end users. Nassau is now a marketer and a shipper of natural gas as well as a producer of natural gas.

As stated earlier, although we had seen a tremendous drop in gas prices, we were able to increase our production and thereby increase cash flow by going through the release and abandonment proceedings. Since that time, nothing has more dramatically affected our netbacks than the rates we are being charged for moving our gas to market. Prior to July 1, 1988, we were paying a volumetric fee of 5¢ to El Paso for moving gas to the mainline and a minimal fee to Northwest for the same service. Both of these pipelines filed for new "unbundled rates" for various field services effective July 1, 1988. As part of our on-going effort



to remain involved and informed, the El Paso Producers Group was formed under my direction. Through this association, Nassau and sixteen other independent producers intervened in the El Paso rate case and presented testimony before the FERC on the rate issues as well as the operating conditions and procedures involved in transporting gas on the El Paso system. A smaller group was also formed to intervene in the Northwest Pipeline rate case thereby enabling us to take an active role in the Northwest settlement conferences.

The attached graphs dramatically depict the result of these new rates on producer netbacks during 1988 and 1989. A substantial number of wells we operate are marginal wells which were much more financially viable to produce during the era of wellhead price regulation due to price incentives, particularly for stripper wells under the NGPA. However, the drop in wellhead prices, particularly since July 1, 1988, have caused us to shut in about 25-30 wells because of the netback prices to be received. Most leases also require shut-in royalty payments after being shut-in for 30-60 days. Further fixed overhead cannot be charged out to wells that are shut in for over 30 days. Obviously, this is money directly out of pocket when no revenue is being generated to offset the expense. Many of these wells still have viable reserves in place, that with some economic incentive may be re-worked or re-completed in the future. Plugging these types of wells will result in a permanent loss of

deliverability and gas supply which can never be recovered.

Nassau is currently developing a 70 well drilling program for coal seam gas production in Rio Arriba County, New Mexico. We are anticipating production from these wells to be 25-30 million cubic feet per day. As you probably know, there are several companies which are drilling for coal seam methane in the San Juan Basin. Current estimates of potential deliverability from all sources of coal seams in New Mexico is upwards of 500 million cubic feet of gas per day. This production will have a tremendous impact on the marketplace, particularly the California markets.

Because the entire industry is operating in a transportation emphasized marketplace, the understanding of rate design and capacity issues is imperative. To increase New Mexico's market share, independents must become actively involved by providing positive input on transportation issues and other natural gas matters at both the state and federal levels. We should concentrate our energies on several things. First, we need to educate the general consumers of natural gas as well as our elected officials. Nassau's membership in the California Manufacturer's Association has provided a vehicle to accomplish this end as well as identifying several markets for our gas. The opportunity to testify in matters before the FERC and before this Subcommittee, are also helpful in achieving this. Secondly,

producers need to strive for decent rate reform, emphasizing cost of service and an adequate rate of return. To this end, we should support the FERC's recently issued policy statement on interstate natural gas pipeline rate design. This policy statement contains elements of particular importance to New Mexico independents such as unbundling of costs, seasonal rates, lesser rates for interruptible transportation and backhauls and exchanges. I urge independents collectively to study the policy statement and submit comments. Thirdly, because of the coal seam development in New Mexico, independents should support the proposed expansion projects of El Paso Natural Gas, Northwest Pipeline and Transwestern pipeline. These projects will add badly needed capacity out of the Basin and increase New Mexico's marketing opportunities in California and Northeastern markets via backhauls and exchanges. Fourthly, I believe the big pipeline projects such as Pacific Gas and Electric's PGT expansion from Canada, Wy-Cal and Kern River should be opposed. These projects will be extremely expensive and I cannot see how they can compete adequately with New Mexico gas. New Mexico gas is closer geographically and the existing and expanded facilities only serve to enhance New Mexico natural gas.

In closing I would like to say that small independent producers are surviving in a world of larger gas producers, integrated pipelines and high rates for gathering and transportation service. To effectuate change of any kind, it is imperative that

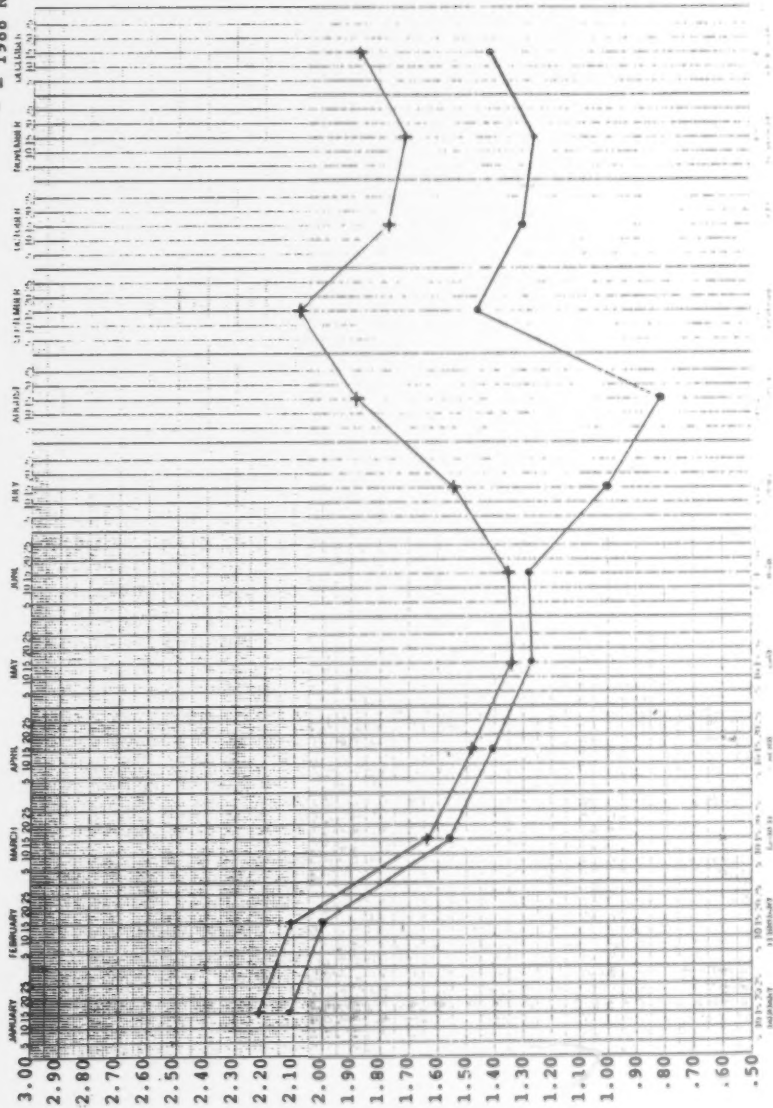
independent producers present a united front in addressing all of the issues facing our industry. In order to keep New Mexico gas competitive as a viable energy source, we must collectively respond to each of the items I have brought forth in this testimony.

K-E 1 YEAR BY DAYS X 250 DIVISIONS  
NEUFEL & ESER CO. "MAY 1988"

46 2890

## 1988 MAINLINE AND AVERAGE NETBACK PRICES

\$/MMBtu

+ = 1988 Mainline  
o = 1988 Netback

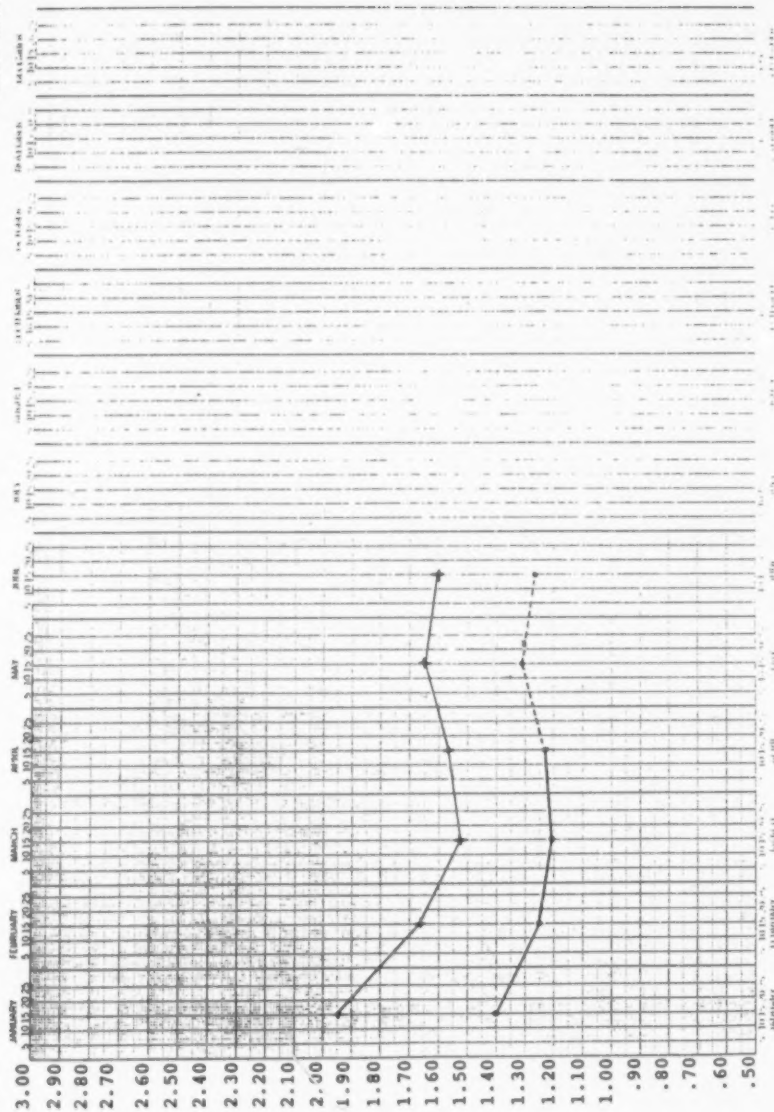
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K&E 1 YEAR BY DAYS & 100 DIVISIONS  
NEUFEL & EDGAR CO. "NEW" "OLD" "FUTURE"

1989 MAINLINE AND AVERAGE NETBACK PRICES

+ = 1989 Mainline  
• = 1989 Netback

\$/MMBtu



Senator BINGAMAN. Thank you very much.

Our final witness on this panel is Mr. Darwin Van Der Graaff. Van is the Executive Vice President of New Mexico Oil and Gas Association in Santa Fe and is very knowledgeable on these issues and works with us regularly on them.

Van, go right ahead. We are glad to have you here.

**STATEMENT OF DARWIN VAN DER GRAAFF, EXECUTIVE VICE PRESIDENT, NEW MEXICO OIL & GAS ASSOCIATION, SANTA FE, NM**

Mr. VAN DER GRAAFF. Thank you, Senator. As you noted, I am with the New Mexico Oil and Gas Association, and it is our pleasure to be here today. We are particularly pleased this hearing is taking place in New Mexico.

As you know, New Mexico is a state rich in energy resources with a relatively small population. Consequently we are a producer state rather than a consumer state. Oil and gas production is responsible for approximately 25 percent of our state's revenues; and, of course, we support a significant number of employees who contribute to the general economy.

Like all oil and gas producing states, we have been seriously affected by the volatility of the energy market. As recent as five years ago, we were responsible for 44 percent of our state's revenues, and employed nearly twice the number of people we currently employ. That would be 15,000 compared to the current seven to 8,000.

The price of gas is largely driven by the price of oil, which is largely driven by the OPEC Cartel. National and international politics have increasingly influenced the ability of domestic producers to participate in the energy market.

New Mexico producers participating in local or regional energy markets have seen their access restricted by Federal or international policies, which do not compensate for local conditions. It is well known, certainly by you, Senator, that New Mexico producers were concerned about the recently approved Canadian trade agreement. Our concern was based on the fact the treaty locked in practices that made it more difficult for independent producers to compete with their Canadian counterparts in the California market. California, for their part, was quick to focus on the short-term benefit of buying gas, which at least temporarily was cheaper from the Canadian sources.

As one who speaks for the importance of maintaining a viable and healthy domestic oil industry, I would comment that it is unfortunate that policy planners do not consider recent history when making future energy supply commitments.

Price and policies practices in Mexico have affected access to that country's energy resources. The policy of previous Canadian governments limited access to their energy supplies, as well as investment in the energy resources. It would seem unwise for this country to base our energy policies on a promise that foreign countries will not alter their policies in the future.

New Mexico has been an inventory state. We have had the resources on the shelf; and when others have wanted our oil or gas,



they expect us to supply them. When they get a better deal, even though it is short-term, they expect us to stand and wait while they take the new girl to the dance.

There is value in having safe, secure, readily available energy supplies provided by domestic energy producers. It should be understood that unless a commitment is made to those domestic producers, we cannot guarantee the availability of product when demand shifts our way.

Consumer states cannot expect producer states to stand in waiting, so that when their market whim shifts, we are expected to make available adequate supply. We cannot maintain a viable, producible energy industry unless the infrastructure of that industry operates on a continuing basis. You cannot close down temporarily, and then expect us to jump back to productivity within a few weeks' notice.

As one who has been in the oil and gas industry longer than most, there is a temptation for me to suggest that because I am old, therefore I am wise. Let me avoid that and just say that my experience has taught me that of all the problems the petroleum industry has had over the past several decades, the most serious one has been the shortage of supply.

Whatever other problems there might have been, the one that caused the most controversy, the most state and Federal investigations, the most public outcry, was the absence of supply. Lines at the service stations, agricultural crops left standing in the field, fuel allocation programs caused more concern than any other problem we have had.

The best way to avoid supply shortages in the future is to insure a viable domestic energy industry today. Prices are largely controlled by international consideration. Cost of production and access to market are largely controlled by state and Federal lawmakers. Taxes, regulatory costs and operating policies are dictated by various lawmaking agencies.

It is the hope of the New Mexico Oil and Gas Association that Federal and state lawmakers will recognize the need to sustain the competitive ability of our domestic energy industry.

You can sell us out for quick and easy foreign energy supplies, but you could not find an industry more willing and more able to support the nation's security and economy. We are encouraged by the interest shown in Congress, which you, Senator, outlined in your opening comments; and we look forward to working with you in the future.

One footnote I would add to this, particularly speaking here in San Juan, we need some consideration into working cooperatively with our Native American friends. Recent court rulings have added some questions in terms of how we are going to do that. We have had a good working relationship with Native American lands. The industry would like to continue that relationship, and I think the time is coming when Federal overview should be given to that area.

Thank you, Senator.

Senator BINGAMAN. Thank you very much, Van. I appreciate that testimony.

Bill, let me ask if you would just elaborate a little bit. What is the status of the response to the California Energy Commission's report talking about their expectations with regard to the use of gas out of this basin? Is there still more to be done there in response to that report?

Mr. LEMAY. Senator, I hope there is more to be done. As you are probably familiar with, that report was not very flattering to Southwest supplies of gas. In fact, the computer model was heavily loaded toward the acceptance of Canadian and Rocky Mountain overthrust gas. I think one of the assumptions in there was that if there was a zero transportation cost for Southwest supplies, California would still be better off getting cheaper gas, and they could get cheaper gas from Canada and the overthrust belt.

We had been looking into the assumptions in that computer model. We are running into a problem in the sense that California Energy Commission will not run additional scenarios for us. I think they limited the number of scenarios they will run, so we are pursuing other ways to address that.

We feel very strongly that the assumptions that went into the model are false. One of which was, I think they only allocated about 7 trillion cubic feet of additional supplies from the coal seam gas in the San Juan Basin, along with other assumptions that we feel are wrong. So we are addressing those.

How important that report is to the ultimate decision of capacity access, additional pipeline access to California, I am not too sure. But we feel we should address that report when we can.

Senator BINGAMAN. For your information, as you may already know, we invited a representative from the commission to come and participate in our hearing today. They had earlier thought they would have someone here. We were informed on Tuesday they could not. We will continue to pursue that.

Mr. LEMAY. The report is very prejudiced against Southwest supply.

Senator BINGAMAN. We do have this letter to Governor Deukmejian on this issue that we will put in the record, and the response that he gave us.

[The letters follow:]

JEFF BINGAMAN  
NEW MEXICO

124 HART SENATE OFFICE BLDG.  
WASHINGTON, DC 20510  
(202) 224-5521  
IN NEW MEXICO: 1-800-443-8758  
TDS (202) 224-1782

## United States Senate

April 20, 1989

The Honorable George Deukmejian  
Governor  
State of California  
State Capitol  
Sacramento, California 95814

Dear Governor:

I have just reviewed the California Energy Commission's March 1989 staff report, An Economic Evaluation of Alternative Interstate Pipeline Projects to Serve California. (P300-89-001). I wanted you to know that I take issue with several of the report's conclusions.

The report maintains, among its primary conclusions, that California will benefit from Canadian and overthrust gas because each offers "access to lower cost gas thru the southwestern pipeline corridor" - the traditional supply region from the Southwest. This suggests that producers in the state of New Mexico are unwilling or unable to compete for markets in California. This conclusion is completely untrue, and without justification.

The report further suggests that supplies of gas from New Mexico will be increasingly uneconomic. The facts clearly dispute this assessment. Producers and pipeline interests in New Mexico, for example, have extensive experience in supplying California with natural gas. Further, the major development programs for coal seam methane gas in the San Juan Basin of northwestern New Mexico are very capable of meeting California's long-term supply needs. New Mexico's coal-seam methane resource represents several hundred million cubic feet per day in potential new supply to serve the California market.

Governor, New Mexico has been and will continue to be a major supplier of natural gas in this country. I urge you to

ALBUQUERQUE  
(505) 786-3636

LAS CRUCES  
(505) 423-4237

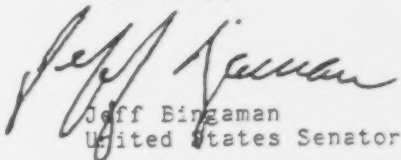
ROSWELL  
(505) 622-7115

SANTA FE  
(505) 988-6647

The Honorable George Deukmejian  
April 20, 1989  
Page 2

take advantage of the tremendous resource potential in New Mexico in meeting California's natural gas market needs. I hope subsequent reports of the California Energy Commission will more accurately reflect New Mexico's important role in meeting our energy future.

Sincerely,



Jeff Bingaman  
United States Senator

JB/mfc

GEORGE DOLAN, JR.  
GOVERNOR

State of California

GOVERNOR'S OFFICE  
SACRAMENTO 95834

TELEPHONE  
(916) 445-2841

May 1, 1989

90706/

The Honorable Jeff Bingaman  
United States Senate  
524 Hart Senate Office Building  
Washington, D.C. 20510

Dear Senator *Jeff* Bingaman:

Thank you for your letter regarding natural gas availability from New Mexico. The gas from your state has, over the years, played an important part in California's energy supply. I anticipate that this relationship will continue into the future. California consumers have benefited from the availability of natural gas from New Mexico and will continue to consider this an important source of gas for our state.

The availability of natural gas to meet California's future energy needs is of critical concern. The benefits it offers, such as cleaner air and domestic availability, cannot be ignored when considering future options for the state.

The expansion of the interstate natural gas pipeline system to meet California's needs is of utmost importance. Over the last five years numerous proposals have been advanced to accomplish this. The proposals offer California many options to meeting its natural gas needs. It has been, and continues to be, our policy that market forces should be allowed to determine if and how the interstate natural gas transmission system which serves California is expanded.

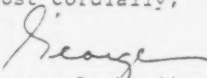
In your letter you reference the draft California Energy Commission staff report entitled "An Economic Evaluation of Alternative Interstate Pipelines to Serve California." I have been informed that the Commission staff was attempting to conduct a preliminary examination of the benefits of various pipeline proposals in this report.

The report is not intended to show preference for or against any pipeline proposal. If it has been drafted in such a way as to lead to this type of interpretation, then it is not consistent with our policy on this issue which I stated above. If you have specific comments or concerns about the report, please contact Mr. David Caffrey, Cabinet Secretary to the Governor, at 916/445-8612.

The Honorable Jeff Bingaman  
Page Two

Again thank you for your comments on this important issue. I  
look forward to seeing you again in the near future.

Most cordially,

  
George Deukmejian

jw

An Economic Evaluation of  
Alternative Interstate Pipeline  
Projects to Serve California

MARCH 1989



George Deukmejian, Governor

**CALIFORNIA  
ENERGY  
COMMISSION**

P300-65-001



## CONCLUSIONS

A number of general conclusions emerge from considering the collection of pipeline scenarios as a whole.

- o Benefits to California consumers derive from decreases in the delivered costs of gas which result from improved access to Rocky Mountain and Canadian gas. Section 4 shows that this conclusion remains valid across a wide range of regional resource base estimates.
- o Rocky Mountain and Canadian gas will play an increasingly important role in California gas markets. The scenario results indicate an expanding role for these supply areas under nearly all potential pipeline configurations. This increased role is due primarily to the low wellhead production cost relative to competing supply regions. Section 4 reveals that this conclusion remains valid over a range of assumptions about relative production costs and supply quantities.
- o Both a Rocky Mountain-to-FOR and an Alberta-to-California pipeline could independently provide significant benefits to California gas consumers. Neither project precludes the other. Table 2-2 shows that either one of these projects, with links to all regions of California, would provide about \$7.5 billion in benefits to all California consumers. These figures are shown in the lower left and upper right boxes of Table 2-2, and are based on Cases 6 and 7, respectively. The bottom right box in the table, based on Case 11, shows that the combination of both projects provides \$ 14.6 billion in benefits, or \$7.1 billion more than either one alone.
- o California could potentially benefit from very large quantities of Rocky Mountain gas. In scenarios where new Rocky Mountain pipelines are available, the gas flow on these pipelines always exceeds the nominal capacity of any existing proposal to transport Rocky Mountain gas to California<sup>6</sup>. Even if much less Rocky Mountain gas were shipped to California than indicated by these scenarios, a new pipeline from the Rocky Mountain supply region promises to be economically viable.

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<sup>6</sup> As discussed above, the model is not constrained to keep the flow below a predetermined level, but rather adds the capacity which is found to be economically viable.

- o A pipeline connecting the EOR region directly to the Rocky Mountains appears to provide greater benefits than an EOR pipeline from the San Juan Basin. The scenario results show that the gas flowing to the EOR region in a San-Juan-to-EOR scenario is primarily Rocky Mountain gas. A Rocky-Mountain-to-EOR pipeline provides cheaper transportation for this gas, and thus provides more benefits.
- o California could benefit from large increases in Canadian imports. As with Rocky Mountain gas, large quantities of Canadian gas flow to California when pipeline corridors become available.
- o Wellhead production costs are more important than transportation costs in determining the relative competitiveness of gas delivered to California. Differences in wellhead prices tend to have a greater impact on delivered gas prices than differences in transportation costs to California. In addition, as gas prices increase over time, transportation costs become a smaller fraction of the total delivered price.
- o Consumers in Northern and Southern California could benefit substantially from access to Rocky Mountain gas delivered via the EOR region. In Case 3, where the EOR region is served by a pipeline which does not connect to Northern and Southern California, gas delivered to the EOR region is considerably cheaper than gas which it could displace in the other demand regions of California. Comparing Cases 6 and 3 in Table 2-1 reveals that the opportunity to use this cheaper gas supply would be worth \$4 billion in increased benefits.
- o Gas from the Southwest will be displaced eastward by increased access to Canadian or Rocky Mountain supplies. Gas from the Permian and Anadarko Basins

7 The one exception to this conclusion occurs when comparing two alternative means of moving gas between the same sets of supply and demand regions. The Rockies-to-EOR and San-Juan-to-EOR pipelines both move Rocky Mountain gas to the EOR region, and the comparison between these two alternatives depends critically on the relative total transportation cost.

8 Consumers in Northern and Southern California would actually be made better off by \$4.5 billion. However, the slight increase in Rocky Mountain wellhead prices causes a decrease in benefits to EOR customers of \$0.5 billion.

and the Gulf Coast becomes more expensive than Rocky Mountain and Canadian gas. The extent to which these supplies supplant those from the U.S. Southwest is governed primarily by California's ability to transport gas from these emerging supply regions. Gulf Coast production declines significantly in all scenarios. While Permian Basin production remains relatively constant and Anadarko production increases, this gas becomes more competitive in markets in the central and eastern U.S. than it is in California.

- o In the Base Case and all of the pipeline scenarios, gas prices are set by gas-on-gas rather than oil-on-gas competition. In the low oil price sensitivity case, oil-on-gas competition does become the dominant force.

Senator BINGAMAN. You also mentioned capacity brokering. Maybe you could elaborate as to your views on the merits or demerits of that?

Mr. LEMAY. The capacity problem is such that I think everyone will agree that everyone's best interests lie in efficiency. Efficiency is keeping the pipeline filled as much as possible. The closer that pipeline runs to its ultimate capacity 12 months a year, the cheaper the rates will be and the higher the netback will be to the producers. With the current partial unbundling that FERC has undertaken, you have a lot of distortions on the pipeline.

Examples being that many of the utilities which under order 380 could convert to-from capacity on the pipeline, their minimum take requirements, they have capacity there that we feel is not being utilized effectively. There are times when we have had curtailments along the pipeline, not necessarily the winter months. Other times those pipelines have been running at half full or less.

So by FERC addressing a way to allocate capacity, let the marketplace allocate it, whether it is a brokering provision. That is just one suggestion, is brokering the firm capacity. Making a separate market in buying the capacity, in other words, so that that capacity according to economic law go to its highest use.

I think that could be seasonally adjusted rates and other areas where FERC could take over this thing. I think you would find some capacities becoming available. If you have capacity that you do not have to pay for in the winter months, that is not an incentive necessarily to turn that capacity loose for someone who needs it.

Senator BINGAMAN. Thank you.

Mr. Eck, Ted, let me ask you on your indication about growing demand and increasing price in the natural gas area. Could you put time frames on that? What kind of time period are we looking at for this growth and demand that you project?

Mr. Eck. I think we are going to be very surprised two or three years from now how easy gas is to sell. This demand is coming on right now. It takes a couple years to put in new capacity. Two years from now we are going to see a lot stronger demand market than we have right today.

Quite honestly if we have the same hearing three years from now, I think you will be worried about supply in the market. I think the market is going to grow very, very rapidly.

As far as price is concerned, we are worth it. Our gas is worth more than we are selling it for. What I mean by that is if you talk to the customer, he is willing to pay a lot higher price to get a secure supply. Gas is cheap even at twice the price versus what it costs to clean up coal. Even if you can clean up coal. There is no technology that will really clean up coal. They are willing to pay a lot higher price up there in the East and California to get dependable supplies of gas.

They are going to have to pay a higher price, because we do not have enough cheap gas for sale. We are going to have to drill a whole lot more wells, and that is why I believe the price of gas has to double if you want to get a supply. Some take \$3.00 to drill a deep formation. Some take \$4.00 if you go up to the Antarctic and

bring gas down from there. But the public wants to pay, because it is a good buy versus the alternative.

Senator BINGAMAN. Van said in his statement that the price of gas is determined by the price of oil, which is determined by OPEC.

You are saying that because of the heightened concern about environmental issues, that is no longer going to be the case.

Mr. ECK. That is correct. We believe that the price of gas will go to a premium over oil. But then you see what is happening to oil, clean oils, is going to a premium over heavy oil; and it costs a lot of money to desulfurize oil also. So we really believe that the price of residual fuel, clean residual fuel, is going to rise in price relative to crude oil. So, too, the price of oil is going to go up and be one of the additional factors that is going to push up the price of gas. We are going to get a premium over oil because gas is cleaner than oil.

Senator BINGAMAN. Let me ask Jerry, on the issue of the contracts that independents are entering into, what is the average length of the gas purchase contracts that you are aware of at this point?

Mr. McHUGH. Senator, I would have to say that from what I read and at least what we do, 30-day contracts are the rule. That is a good question, because I think independents, and I know myself—I am as nervous going into a long-term contract right now, as we were about getting out of them three years ago.

I think that is just kind of the way independents feel. We are just real nervous about going long, because we feel that the purchasers are trying to get us, basically. They are trying to get something on us, tie our supplies up, and then we do not know what is going to happen. We do not know what our transportation charges will be ultimately at our wellheads.

We would like to have just a properly indexed thing that would go up with the market. I just do not think there is that trust there to go more than 30 days.

Senator BINGAMAN. Okay.

Mr. McHUGH. Long-term contracts to me are 60 days.

Senator BINGAMAN. Van, do you have any thoughts on this issue of length of contracts, and what is appropriate? I mean we go through cycles, and while I have not followed this subject as near as long as you have or anything, it strikes me we go through periods where the industry is very concerned that they cannot get into long-term contracts. Now, we are hearing that the industry is very apprehensive about getting into long-term contracts, because of what they see as the projections with regard to price.

Is there anything that you have to say on that general subject?

Mr. VANDERGRAFF. I think you hit upon the key thing, and that is the long-term projection of price. One thing that has been lacking in the industry for years is stability, the ability to forecast. As the market has gone up and down in sudden jolts, there is definitely a reluctance to make any long-term commitment, whether you are at the drilling end or the contract end, because you do not know what the future holds.

There are those in my industry who put a lot of the blame on the lawmakers for that because we do not have a firm, solid energy policy. We do not have the guidance that they think they need.



At the same time, I think we do want open, free market access because it sort of—at what point are you arguing with whom?

Senator BINGAMAN. Government is getting out of the business. Soon you are not going to be able to complain.

Mr. VANDERGRAAFF. I think both you and I would like that. The government has, as in the past, gone what most of us feel is a little too far into it. I think the trend the last several years has been good and favorable, but I think it is the volatility of the market that has made us uneasy in terms of both making new investments and signing long-term contracts.

Senator BINGAMAN. Let me ask Ted or any of you on this: Is it reasonable to think that you can sign contracts that are indexed to alternative fuel prices, or to inflation or to something like that to get out of this problem? I would think that if you could find the proper index to tie the price to, it is in everyone's interest to get into a longer term arrangement.

Mr. ECK. I think we are willing to sign long-term commitments on volume, but the price would be at the price at the time of delivery. It is like you can buy an automobile for delivery six months from now, but the price is going to be what the price is at the time that car is delivered. There is not any other commodity in the world that you can buy at a fixed price for delivery years down the road.

The current price, as I have indicated, is a ridiculous price. It is way below replacement cost. Nobody in their right mind is going to sign a fixed-price contract at today's price of gas. It is a way to go bankrupt. The people who have signed those deals have gone bankrupt.

We cannot fix the price, because nobody knows what inflation is going to be. You just cannot link to an inflation indicator. You can and there are probably people signing contracts which are linked to the price of oil with maybe some premium. And that there are contracts like that that are being signed, and I think we may see more of that.

But basically I believe the contract mechanism is going to be contracting for volumes, so you know what you are going to get. If you build that turbine, or whatever it is, the gas is going to be there; but you are going to pay the market price for gas at the time of delivery.

Senator BINGAMAN. Market price as calculated or determined—

Mr. ECK. Whatever gas sells for at that time, probably in a spot market. Be like crude oil or any other commodity, you pay for the commodity at the commodity price at the time of delivery.

Senator BINGAMAN. Ron, let me ask you what can be done to help move New Mexico gas to the East? Is that something we ought to be concerned with as well, and is it something you are working on as well?

Mr. MERRETT. Yes, Senator, we are not confident that there is going to be enough pipeline capacity going west to handle all of New Mexico's gas, and that is particularly true in San Juan. We have been trying to find ways to get experts to come and help us, show the industry how to move gas east. Major companies by and

large know how to do it. Pipelines know how to do it. It is done by exchange and by backhaul.

Independents traditionally not being in that line of business, and so we are planning a study this coming year of full pipeline routes and costs, and we will try to find some ways to actually help gas to flow to the Midwest and to the East Coast. That is one of the plans we have for this coming year.

Senator BINGAMAN. "This coming year" meaning the remainder of 1989 or 1990?

Mr. MERRETT. July of 1989 to June of 1990.

Senator BINGAMAN. We have two other panels. I could ask questions here for a while longer, but I think we need to stop at this point. I appreciate very much the testimony.

And if I could ask the second panel to come forward. We have four representatives from the pipeline industry, if they would come forward, please.

The first witness in the second panel is Dr. John Craig, who is the Senior Vice President for Marketing and Gas Supply with El Paso Natural Gas Company, and we welcome him here. I think I will go ahead and introduce who the other three witnesses are before I call on Dr. Craig to testify.

Mr. Douglas Krenz, who is Vice President for Planning and Development with Transwestern Pipeline Company out of Houston.

Mr. Michael C. Holland, Executive Vice President with Mojave Pipeline Company out of El Paso.

Mr. J. Greg Saunders, who is the Manager, Gathering and Processing Services with Northwest Pipeline Corporation out of Salt Lake City.

Dr. Craig, we are very pleased to have you here, and please go right ahead.

**STATEMENT OF DR. JOHN CRAIG, SENIOR VICE PRESIDENT,  
MARKETING, EL PASO NATURAL GAS CO., EL PASO, TX**

Dr. CRAIG. Senator, El Paso appreciates the opportunity to speak to you today on the competitiveness of New Mexico natural gas, in particular in light of recent developments in the natural gas markets and regulations and federal legislation. Natural gas resources of the State of New Mexico and its producers are special to us, because the legacy we share goes back a long time. The legacy goes back to 1928 when we signed supply contracts from three gas wells in the Jal, New Mexico, area.

Obviously much has happened since that point in time. Our system now serves markets in West Texas, New Mexico, Arizona, Nevada, and California. Our major market, however, is California. We provide approximately 50 percent of the natural gas used in that state, and that comprises roughly 80 percent of the total deliveries from the El Paso system.

Natural gas going in our system originates in most of the major supply basins of the Southwest. However, approximately 43 percent of our supplies come from the State of New Mexico. We currently



operate extensive gathering and mainline facilities in the San Juan Basin. Of the total 25,000 miles of pipeline in the State of New Mexico, El Paso owns and operates almost 10,500 miles. Our employees are better than a thousand employees in the state.

El Paso stands willing and able to take part in accessing other major natural gas supply from the San Juan Basin, natural gas and coal seam formations. We anticipate approximately 500 million cubic feet per day of new gas production in coal seam formations will be available in the needed vicinity of El Paso's San Juan Basin facilities by the end of 1990.

Currently production from those formations has passed 100-million-cubic-feet-per-day level and is rapidly moving toward the 200-million-cubic-feet-per-day level. This new development should help assure the economic viability of the San Juan Basin for many years to come.

We are here today to assure you that El Paso is committed to handle these new supplies when they are brought on stream and given to us for transportation, as well as our traditional supplies and any other additional supplies as they are developed. We are confident that El Paso's integrated pipeline system will continue to be the cheapest means of transporting gas out of the San Juan Basin to the markets in California, Arizona, Nevada, New Mexico.

Furthermore, and I will talk about this a little bit more, with our backhaul capability, we can transport gas and have it in our system for movements to markets in the Midwest, Northeast and the Texas Gulf Coast. As evidence of our commitment to these objectives, on February 24 of this year we filed with FERC our certificate of public convenience and necessity to extend our San Juan triangle mainline facilities. Approval of this application will enable El Paso to upgrade existing pipeline capacity to transport the full 500-million-per-day coal seam formation gas, as well as to continue to transport all conventional production in the vicinity of the San Juan triangle and to continue to receive natural gas from Northwest Pipeline at Ignacio.

The necessary incremental facilities proposed to be constructed in this application will cost less than \$23 million, which is really significant when you look at incremental expansion that we are talking about. The expansion is another 165 million a day out of the basin.

Additionally, we plan to configure our Ignacio dry gas system by November 1, which will increase its ability to receive the full production volumes, traditional uncontracted supply sources. El Paso is actively pursuing several new interconnections to handle gas from coal seam formations. We have entered into an agreement with West Gas to interconnect at a point downstream of Ignacio that will bring in about 150 million a day as early as November of this year. That is primarily Arco coal seam gas. Working on similar arrangements with other producers.

These interconnects in El Paso's own system will insure New Mexico producers access to the mainline through which they may compete in markets virtually throughout the country. Our interest in pipeline expansions is not limited to the immediate San Juan

area. Very soon we expect to file for approval to construct a mainline expansion that would permit transportation of up to 600 million cubic per day to California. With this expansion we intend to demonstrate El Paso's willingness and ability to provide firm transportation to support the Mojave pipeline project.

Mike Holland will discuss the Mojave pipeline project and its relevance to New Mexico natural gas production shortly.

What I can say now is that this expansion will enable New Mexico producers to obtain firm capacity they need through the enhanced oil recovery market in Kern County, California. That is one of the most sought after markets in the United States. To my knowledge no other pipeline proposal offers New Mexico producers this much capacity to California, and the transportation prices.

You have heard a lot about backhaul thus far, Senator. El Paso's ability is not limited to markets in Western United States. Today El Paso can provide firm transportation of 200 million cubic feet per day, and another 200 million of interruptible capacity from the San Juan Basin to a major pipeline hub known as Waja in West Texas. We can backhaul to San Juan Basin, San Juan Basin gas to Waja, where there are at least 11 other interconnecting natural gas transmission systems leading to markets all over the United States.

Moreover to indicate our commitment to utilizing this backhaul capacity, we have offered substantial discounts in our field and field transportation and mainline transportation fees to producers and shippers desiring access to these pipeline interconnects since last fall.

In the very near future El Paso expects to file a system upgrade proposal, which will increase capacity of Waja by 300 cubic feet per day. Through backhaul arrangements this expansion will further improve the ability of San Juan producers to reach eastern markets.

The natural gas industry has changed in many ways that are truly revolutionary. In the not too distant past El Paso purchased gas from producers for resale to our customers and relied upon contracts of gas supply dedicated to the pipeline.

New regulations and legislation has caused El Paso's traditional gathering and process services to be unbundled. Today our customers can buy gas in the field; have it gathered and processed for a fee, and then have it transported on our mainline.

To illustrate how dramatically this change had impacted El Paso in its dedicated production, in 1984 approximately 85 to 90 percent of our throughput came from dedicated supplies; that is, gas that we had under contract. Long-term contract I might add. Today, 90 percent of our throughput is transportation volumes. Gas that has been purchased directly by our customers from sellers besides El Paso, and gas that El Paso is obligated to transport. These fundamental changes in the natural gas industry resulted in problems between El Paso and traditional producer suppliers.

Today I am happy to say most of these problems are substantially behind us. We have negotiated and signed mutually acceptable settlements with virtually all of our contracted producers.

In closing El Paso Natural Gas is imminently tied to the New Mexico natural gas resource. We have been partners with New Mexico from the start; and as I outlined, we are willing and able to provide the transportation systems necessary for New Mexico producers to compete in, and to increase New Mexico's market share in California, and as importantly in the new backhaul markets including the Texas Gulf Coast, the Midwest and the Northeast.

Thank you.

[The prepared statement of Dr. Craig follows:]

BEFORE THE SENATE ENERGY AND  
NATURAL RESOURCES COMMITTEE

SUBCOMMITTEE ON MINERAL RESOURCES  
DEVELOPMENT AND PRODUCTION

Testimony of John M. Craig  
on Behalf of El Paso Natural Gas Company

June 29, 1989

Good afternoon. I am John M. Craig, Senior Vice President of Marketing for El Paso Natural Gas Company. I am responsible for the Company's gas marketing, gas supply, transportation and exchange and special projects. El Paso appreciates the opportunity to speak to you today on the competitiveness of New Mexico natural gas in light of recent developments in natural gas markets, regulation and federal legislation.

The natural gas resources of the State of New Mexico and its producers are special to us because we have shared a legacy together. Our company began its New Mexico relationship when we signed supply contracts from three gas wells near Jal, New Mexico in the summer of 1928. We found markets for that gas in the City of El Paso and built the first natural gas pipeline to supply New Mexico natural gas to that city in 1929. Much has happened since that time. The El Paso Natural Gas Company system now serves markets in West Texas, New Mexico, Arizona, Nevada and California. Our major market, however, is California. We provide approximately 50 percent of the natural gas used in that state, and that comprises roughly 80 percent of the total deliveries from the El Paso system. Natural gas supplying the El Paso

system originates in most of the major supply basins of the southwest, however approximately 43 percent of our supplies come from the state of New Mexico. El Paso Natural currently operates extensive gathering facilities in the San Juan Basin, as well as its San Juan Triangle System. The presently authorized maximum summer capacity of the San Juan Triangle System is a nominal 1,500 MMcf/d. Of the total 25,000 miles of pipeline in the state of New Mexico, El Paso owns and operates 10,500 of those miles, and employs 1,025 people in the state.

I myself am no stranger to the gas producing regions of New Mexico. I lived in Farmington from 1984 to 1987 when I was responsible for our San Juan Division Operations. I can tell you that I know the San Juan Basin and I am proud of my Company's role here.

El Paso stands willing and able to take part in accessing another major natural gas supply from the San Juan Basin -- natural gas from coal seam formations. San Juan Basin coal seam formation gas is one of the brightest new horizons in natural gas production. Several major natural gas producers have committed, and will continue to commit into the 1990's, large capital investments in their respective development programs. We anticipate that approximately 500 MMcf per day of new gas production from coal seam formations will be available in the immediate vicinity of El Paso's San Juan Basin facilities by the end of 1990. At this time, production from these formations has passed the 100 MMcf per day level and is moving rapidly toward the 200 MMcf per day mark. This new development should help assure the economic vitality of the San Juan Basin for many years to come.

We are here today to assure you that we are committed to handle these new supplies as they are brought on stream and given to us for transportation, as well as our traditional supplies and any additional gas supplies as they are developed. And we are confident that El Paso's integrated pipeline system is, and will continue to be, the cheapest means of transporting gas out of the San Juan Basin to markets in California, Arizona, Nevada and New Mexico. Furthermore, with our backhaul capability, we can transport gas to the east end of our system for movement to markets in the Northeast, Midwest and Texas Gulf Coast.

As evidence of our commitment to these objectives, on February 24, 1989, El Paso filed with the FERC, for a certificate of public convenience and necessity, to expand our San Juan Triangle mainline facilities. Approval of this application will enable El Paso to upgrade existing pipeline capacity to transport the full 500 MMcf per day of coal seam formation gas, as well as to continue to transport all conventional production in the vicinity of the San Juan Triangle and to continue to receive natural gas from Northwest Pipeline at Ignacio, Colorado. The necessary incremental facilities proposed to be constructed in this application are estimated to cost less than \$23 million. This upgrade will provide an increase in transportation capacity of 165 MMcf per day from the San Juan Basin.

Additionally, we have a plan to reconfigure our Ignacio dry gas system by November 1, which will increase its ability to receive the full production volumes from traditional uncontracted supply sources.



El Paso is actively pursuing several large new interconnections to handle gas from coal seam formations. We have entered into an agreement with WestGas for an interconnect at a point downstream of Ignacio that will bring in up to 150 MMcf per day as early as November of this year, primarily ARCO coal seam gas. We are working on a similar agreement with other producers. These interconnects and El Paso's own system will ensure New Mexico producers' access to El Paso's mainline system, through which they may compete in markets virtually throughout the country.

El Paso's interest in pipeline expansions is not limited to the immediate San Juan area. Very soon, El Paso expects to file for approval to construct a mainline pipeline expansion that would permit transportation of up to 600 MMcf per day to California from a point on our mainline where the San Juan and Permian delivery systems meet. With this expansion, we intend to demonstrate El Paso's willingness and ability to provide firm transportation to support the Mojave Pipeline Project. Mike Holland will discuss the Mojave Pipeline Project and its relevance to New Mexico natural gas production in detail. What I can say now is that this expansion will enable New Mexico producers to obtain the firm capacity they need to reach the enhanced oil recovery market in Kern County, California, one of the most sought after markets in the United States. To my knowledge, no other pipeline proposal offers New Mexico producers this much capacity to California, and at rolled-in transportation prices.

Nor is El Paso's ability to offer New Mexico producers market diversity confined to markets in the western United States. Today, El Paso can provide firm transportation of 200 MMcf per day, and 200 MMcf per day more



interruptible capacity, from the San Juan basin to a major pipeline hub known as "Waha" in west Texas. El Paso can backhaul large volumes of San Juan Basin gas to the Waha, Texas area and at least eleven other interconnecting natural gas transmission systems leading to markets all over the United States. Waha is a very desirable location, as it is a principal doorway to the Texas Gulf Coast, Midwest and Northeastern United States markets. Moreover, to indicate our commitment to utilizing this backhaul capability, we have offered substantial discounts in our field transportation and mainline transportation fees to producers and shippers desiring access to these pipeline interconnects since last fall.

In the very near future, El Paso expects to file a system upgrade proposal which will increase capacity at Waha by 300 MMcf per day. Through backhaul arrangements, this expansion will further improve the ability of San Juan producers to reach eastern markets.

The expansion will also benefit southeast New Mexico producers through the manifolded of a number of El Paso facilities in the Permian Basin between Plains and Waha. Manifolded will enable El Paso's transportation customers to readily transport large volumes of Permian Basin gas east, regardless of delivery location.

The natural gas industry has changed in ways that are truly revolutionary. In the not too distant past, El Paso purchased gas from producers for resale to our customers and relied upon contracted gas supplies dedicated to the pipeline. New regulations and legislation have caused El Paso's traditional gathering and processing services to be unbundled. Today, our customers can

buy gas in the field, have it gathered and processed for a fee, and then have it transported on our mainline.

To illustrate how dramatically this change has impacted El Paso and its dedicated production, in 1984, 85 to 90 percent of our throughput came from dedicated supplies (gas contracted by El Paso). Today, 90 percent of our throughput is transportation volumes, gas that has been purchased directly by our customers from sellers besides El Paso and that El Paso is obligated to transport.

These fundamental changes in the natural gas transmission industry resulted in problems between El Paso and our traditional producer suppliers. Today, most of these problems are substantially behind us. We have negotiated and signed mutually acceptable settlements with virtually all our contracted producers.

In closing, El Paso Natural Gas is intimately tied to the New Mexico natural gas resource. We have been partners with New Mexico from the start and, as I have outlined, we are willing and able to provide the transportation system necessary for New Mexico producers to compete in, and to increase New Mexico's market share in, California and as importantly in new backhaul markets including the Texas Gulf Coast, the Midwest and the Northeast.

Thank you. I will be pleased to answer any questions you might have.

Senator BINGAMAN. Thank you very much. Before I ask any questions, let me hear from all of the witnesses here.

Douglas Krenz, who is Vice President for Planning and Development with Transwestern Pipeline.

Thank you for being here.

**STATEMENT OF DOUGLAS KRENZ, VICE PRESIDENT, PLANNING AND DEVELOPMENT, TRANSWESTERN PIPELINE CO., HOUSTON, TX**

Mr. KRENZ. Thank you. Good afternoon, Mr. Chairman.

I appreciate the opportunity to be here today to testify on New Mexico's role in the U.S. gas market, and I commend you on your effort in such a vital area as energy and natural resources.

As you are aware, Transwestern is approximately a 4500-mile interstate transmission system with primary gathering areas in Oklahoma, West Texas and southeastern New Mexico. Our primary market is southern California.

What I would like to do this afternoon is concentrate my comments on, number one, the San Juan Basin in general; the recently announced Transwestern/Northwest pipeline proposal which will serve the San Juan Basin; and lastly the overall environment and the natural gas industry.

San Juan Basin is the second largest gas-producing basin in the lower 48 states. And when I am speaking of the San Juan Basin, I am actually talking about both production in New Mexico and in Colorado, realizing the lion's share of the production today is in New Mexico. San Juan has been a prolific gas supply source for a long time, mainly serving markets in the Northwest and California.

We at Enron and Transwestern Pipeline are very excited by the level of drilling and producer activity associated with the coal seam development. As Bill mentioned earlier, it is estimated that 1500 coal seam wells will be complete by the end of 1990. We estimate that this will actually equate to somewhere in the order of 750 Tcf a day of deliverability within the next three years. It is not hard to imagine that level considering the high success rates associated with drilling for these coal seam wells; also the tax credit incentives provided by the Crude Oil Windfall Profits Tax of 1980.

If you combine conventional and coal seam projections, the estimate for San Juan gas in place that we are using is in the order of 27 to 50 trillion cubic feet. That is a substantial reserve estimate. However, we see expansions in other supply basins, and unless there is adequate and cost effective pipeline capacity, the maximum value of this resource will not be realized in the near term.

Transwestern wants to insure that the potential of this important gas supply source is fully realized. The gas from San Juan Basin can be used to meet growing demand for gas throughout the United States. To achieve this goal Transwestern and Northwest have recently announced a new pipeline to transport gas from the San Juan Basin. The new pipeline would have the design capacity of 500 million cubic feet a day, and extend from Northwest's pipeline at Ignacio to Transwestern's pipeline in McKinley County. Northwest would construct and own independently the north 34-

mile segment from their Ignacio plant to a point near the Blanco plant complex. Transwestern's segment would extend from Blanco approximately 120 miles to its existing compressor station location at Thoreau, New Mexico.

We estimate that construction of both of these segments would take approximately 18 months from the time the decision is made to proceed with the project. For our planning purposes right now we are targeting a mid-1991 in-service for that project.

It is currently contemplated that both companies would construct its separate segments under 311 of The natural Gas Policy Act. Doing that will require that all lines transporting through pipeline have to be on behalf of either an intrastate pipeline or a local distribution company. Associated with the new pipeline we have announced an open access, open season, during which potential shippers can request firm transportation service. The open season process will run through the middle of July and actually provides a mechanism to allocate the available capacity and provide equal access to all prospective shippers. In addition, it will better define for us the real demand for the pipeline and the economic viability of the pipeline.

We view coal seam methane development as a long-term source of stable gas deliverability to serve the increasing requirements in the U.S. In addition, with the current gas deliverability surplus coming to an end, Transwestern is aggressively implementing new policies to attach new long-term supplies with systems. We view the San Juan Basin a very strategic gas supply for Transwestern's future. We believe the pipeline will provide future supply flexibility for Transwestern's current customers and also provide the San Juan Basin producers with new alternatives to meet the increasing gas transport requirements from the area.

With respect to the San Juan producers, this alternative would provide them not only with the ability to continue to serve their traditional market, but would also afford them flexibility to access markets in the Midwest, the Gulf Coast and feasibly in the Northeast. We can do this through the various interconnects that Transwestern has with other Enron pipelines and other pipelines to access the total U.S. pipeline grid network, and would open access now in place that gas can virtually go to any market.

The other topic I would like to briefly discuss is the overall natural gas business environment. First, decontrol of natural gas prices at the wellhead is a very positive step for the industry. I appreciate the support and the leadership on gas decontrol that you have provided, Mr. Chairman. It will allow the marketplace to determine the price of natural gas as a commodity product. I believe this will be very positive for the producers, consumers and the natural gas industry in total in that they will now have the ability and the freedom to make decisions based on the true premium value of natural gas in relation to the alternate fuels that it competes with.

Another important development in the gas industry concerns the restructuring of our business and the regulatory activities. As the pipelines have been in transition the last few years from primarily a supply aggregator and regulated merchant function to a more dominant transporter role, capacity marketing has become a key business attribute for us. This transition has also been an impor-

tant one for the producers as direct marketing of supplies to customers has taken on increasing importance.

With these changes the traditional process whereby pipeline capital investments proceed have also been changed. Today as a pipeline we have to rely on long-term transportation commitments to support the economic project viability. This is distinguished from in the past when as a merchant we would purchase gas to serve our market, and we would also purchase a share of gas to anchor new supply area projects. With prospects of growth and stability, we are encouraging the New Mexico producers to focus on longer term sale commitments, which can also be used as a basis for supporting the new pipeline investments as we are talking about here today.

I would summarize my comments by stating the present development of coal seam gas in the San Juan Basin and our proposed pipeline to transport gas from the San Juan Basin will be a boost to the producers and also the State of New Mexico. Transwestern continues to view New Mexico as an important component of our gas supply needs.

We currently transport approximately 225 to 250 million a day of New Mexico gas into California. With the proposed pipeline project extension, those volumes could be increased to 750 million a day. That gas could flow not only to California, but could also access eastern markets.

In addition, Transwestern through Enron is also a partner in the Mojave project. We have participated in the recent settlement between Mojave and Kern River, which both were very excited about that.

Thus we remain strongly committed to encouraging gas production from New Mexico, and we look forward to working with you, Mr. Chairman, and others to see that as gas demand grows, we continue to keep New Mexico as a primary and a very important player in meeting the future gas needs.

Thank you very much.

[The prepared statement of Mr. Krenz follows:]



**ENRON**  
**Transwestern Pipeline Company**

P. O. Box 1188 Houston, Texas 77251-1183 (713) 853-6161

Testimony of

Doug Krenz, Vice President  
Planning & Development  
Transwestern Pipeline Company

before Subcommittee on Mineral  
Resources Development and  
Production of the Senate Energy  
and Natural Resources Committee

Good afternoon, Mr. Chairman. I am Doug Krenz, Vice President, Planning & Development of Transwestern Pipeline Company, a subsidiary of Enron Corp. I appreciate the opportunity to be here today to testify on New Mexico's role in the U.S. gas market and I commend you on your efforts in such a vital area as energy and natural resources.

As you are aware, Transwestern is an interstate pipeline which transports approximately 750 MMCFD of gas from Oklahoma, West Texas and New Mexico to California. I would like to concentrate my comments this afternoon on the San Juan basin in general, the recently announced Transwestern/Northwest pipeline for the San Juan Basin, and the overall environment in the natural gas industry.

The San Juan Basin is the second largest gas producing basin in the lower 48 states. When I speak of the San Juan Basin, I mean both the Colorado and New Mexico portions. San Juan has been a prolific gas supply source for a long time, mainly serving the California and Northwest markets.



Recently, much attention has been given to the San Juan Basin due to the rapid development of the coal-seam methane. It is estimated about 1500 coal seam gas wells will be completed by the end of 1990. We estimate this will equate to new deliverability of 750 MMCFD to 1 BCF within the next three years. This is not hard to imagine with the high drilling success rates for these wells and the tax credit incentive provided through the Crude Oil Windfall Profits Tax Act of 1980.

If you combine the conventional and coal-seam gas projections, the estimate for San Juan gas in place is 27-50 TCF. This is a significant reserve estimate. However, as we have seen in other expanding supply basins, unless there is adequate and cost-effective pipeline capacity, the maximum value of this resource will not be realized in the near term.

Transwestern wants to ensure that the potential of this important gas supply source is fully realized; that gas from the San Juan Basin can be used to meet the growing demand for gas throughout the United States. To achieve this goal, Transwestern and Northwest have recently announced a new pipeline to transport gas out of the San Juan Basin. The proposed pipeline would have a design capacity of 500 MMCFD and would extend from Northwest's pipeline at Ignacio and interconnect with Transwestern at the Thoreau compressor station in McKinley Co., New Mexico. Northwest would construct and own the north 34 mile segment from its present Ignacio processing plant to a point near Blanco, New Mexico.

Transwestern's segment will extend about 120 miles from a point near Blanco, New Mexico to its existing facilities at Thoreau, New Mexico. Construction of both lines is expected to be completed within 18 months from the date the decision is made to build. It is contemplated that each company would construct its segment under Section 311 of the Natural Gas Policy Act which requires volumes to be transported on behalf of an intrastate pipeline company or a local distribution company.

We have just announced an open season during which potential shippers may request firm transportation service. The open season process, which will run through July 15, 1989, will provide a mechanism to allocate the available capacity as well as better define the demand for and economic viability of the project.

We view the coal seam methane development as a long term source of stable gas deliverability to serve the increasing gas requirements in the U.S. In addition, with the current gas deliverability surplus coming to an end, Transwestern is aggressively implementing new policies to attach long term gas reserves. The San Juan basin is strongly viewed as a very strategic gas supply source for Transwestern.

We believe this pipeline will provide future supply flexibility for Transwestern's current customers and also provide the San Juan Basin producers new alternatives to meet the increasing gas transport requirements from the area.

With respect to the San Juan producers, this alternative would provide them the opportunity to not only continue to serve their traditional markets, but also afford them the flexibility to access markets in the Midwest, Gulf Coast and feasibly the Northeast. This is due to the ability of Transwestern and other Enron entities to move gas to other pipelines for eventual sale to any market in the United States.

The other topic I would like to briefly discuss is the overall natural gas business environment. First, decontrol of natural gas prices at the wellhead is a most positive step for the industry. I appreciate the support and leadership on gas price decontrol by you, Mr. Chairman, and the other members of New Mexico's Congressional delegation. It will allow the market place to determine the price of natural gas as a commodity product. I believe this will be very positive for the producers, consumers, and overall natural gas industry because they will have the freedom to make decisions on the true value of natural gas in relation to alternate fuels.

Another important development in the gas industry concerns the restructuring of our business and regulatory activities. As the pipelines have transitioned the last few years from primarily a supply aggregator and regulated merchant function to a more dominant transporter role, capacity marketing has become a key business attribute. This transition is an important one for the producers as direct marketing of supplies to customers has taken on increasingly more importance. With these changes, the traditional process whereby pipeline capital investments proceed has also been upset. Today, as a pipeline, we must

rely on long term transport commitments to support the economic project viability. This is distinguished from the past when pipelines purchased gas supplies to anchor the new gas supply investments. To foster growth and stability, we are encouraging the New Mexico producers to focus on longer term sale commitments which can also be the basis for supporting new pipeline investments, as I have discussed today.

I would summarize my comments by stating that with the present development of the coal seam gas in the San Juan Basin, and our proposed pipeline to transport gas from the San Juan Basin, this would be a boost to the producers and also the state of New Mexico.

Transwestern continues to view New Mexico as an important component for our gas supply needs. We currently transport approximately 225 to 250 MMCFD of gas from New Mexico into California. With the proposed expansion from the San Juan Basin which I have been discussing, our system could be transporting up to 750 MMCFD, flowing gas from New Mexico not only to California but to other regions in the nation. In addition, Transwestern is a partner in the recently announced Mojave/Kern River Project--a project of which we are very excited. Thus, we remain extremely committed to encouraging gas production from New Mexico. We look forward to working with you, Mr. Chairman, and others, to see that as gas demand grows--to meet Clean Air standards, to meet energy needs--New Mexico gas is available to serve those markets.

Thank you, Mr. Chairman, and I will be delighted to answer any questions you may have regarding these remarks.

/lf

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Senator BINGAMAN. Thank you very much.

Our next witness is Mr. Michael Holland, who is Executive Vice President of Mojave Pipeline Company, and he is going to give us an update on the Mojave project and the arrangements with Kern. Please go right ahead. We are glad you are here.

**STATEMENT OF MICHAEL C. HOLLAND, EXECUTIVE VICE  
PRESIDENT, MOJAVE PIPELINE CO., EL PASO, TX**

Mr. HOLLAND. Thank you, Senator. Thank you very much for asking us to appear here today, and maybe take this opportunity as well to thank you for your very solid and effective support for the Mojave project through the last year or two. We have always believed what is good for Mojave is good for New Mexico.

Mojave, as you recalled, as Mr. Krenz mentioned, is a partnership between subsidiaries of Enron Corporation and El Paso Natural Gas Company. I am El Paso's representative to the Mojave project.

The original Mojave project was designed so as to provide a capacity of between 400 and 600 million cubic feet per day through a new pipeline system that will interconnect with Transwestern and El Paso's system at the California/Arizona border near Topock, Arizona, and move that gas out into Kern County, California, where it would be made available for coal generation and steam generation, probably EOR producers in that area.

Mojave will be a transportation only pipeline, and by that we mean that the Mojave corporate sponsors will not buy or sell any supplies of gas themselves, but will undertake contract transportation for the actual owners of that gas.

We think Mojave offers New Mexico producers new opportunities to compete for California markets. The EOR market has an increasing need for the natural gas spurred both by the country's need for Kern County crude oil, and by the producers need to power their projects out in Kern County with economically clean-burning fuel.

Mojave will provide the EOR market direct access to the rich natural gas reserves of the Southwestern U.S. Based on the transportation contracts Mojave already has signed, at least half of Mojave's load will be New Mexico gas.

Mojave believes that New Mexico producers could use their abundant resources, including San Juan coal seam gas, to offer California consumers economical, reliable gas supplies.

Mojave believes that if New Mexico and other Southwest producers vigorously compete for the California load, to which Mojave can connect them, they will be successful in capturing a larger share of this market.

Mojave recently entered into a settlement with Kern River Transmission Company and Southern California Gas Company. A copy of the settlement has been submitted to you as attached to my testimony. I believe that this settlement virtually assures construction of the Mojave project.

Briefly, the settlement provides that the project combining many of the features of both Mojave and Kern River will be built. Mojave will build a line with an initial capacity of 400 million cubic feet



per day from Topock to Barstow, California. Kern River will construct a 700-million-cubic-feet-per-day facility from Opal, Wyoming, to Barstow, California.

Then extending west from Barstow, a 42-inch pipeline with a combined capacity of 1.1 billion cubic feet per day would be constructed. Mojave would own 400 million cubic feet of capacity in that line, and Kern River 700 million cubic feet.

Mojave and Kern will have completely separate price and tariffs all the way to Bakersfield, California. Moreover, Mojave and Kern River and SoCal will continue to compete to serve the California markets accessible through the combined project.

All pipelines will be open access, enabling customers to contract with the producers of their choice and enabling producers, such as those in New Mexico, to compete for the EOR and other loads in the State of California.

The settlement resolves the largest part of the hotly contested litigation that has surrounded the continuing proposals for several years, making it possible for Mojave to estimate that it will be in operation by July 1, 1991.

We believe that the Federal Regulatory Commission and the Public Utilities commission of the State of California will be very pleased by the settlement and will work to speed its implementation.

Moreover, Mojave's share of the cost of the combined project will be less than the cost of a Sanderline project. As a result Mojave's transportation rates should drop; further increasing the competitiveness of Southwestern suppliers who choose to sell across the Mojave pipeline.

In addition to interconnections with SoCal Gas Company and perhaps other LDC companies in California, the settlement may enhance Southwest producers' ability to serve not just the EOR market, but other end users off the SoCal systems in California.

And finally, the direct link into California will give New Mexico producers the capacity to compete against the projects being proposed to increase the flow of Canadian gas into southern California.

Mojave believes that American producers can provide the gas that California needs, and Mojave will be an important piece of transportation puzzle that had to be solved in order to win this competition. The settlement I have discussed will facilitate the construction of the Mojave project, and with vigorous competition Southwest producers will reap the benefits of this new project.

Thank you very much.

[The prepared statement of Mr. Holland follows:]

**BEFORE THE SENATE ENERGY AND  
NATURAL RESOURCES COMMITTEE**

**SUBCOMMITTEE ON MINERAL RESOURCES  
DEVELOPMENT AND PRODUCTION**

**Testimony of Michael C. Holland  
on Behalf of Mojave Pipeline Company**

**June 29, 1989**

Good afternoon. My name is Michael C. Holland. I am Executive Vice-President of Mojave Pipeline Company. I am also Vice-President for Special Projects for El Paso Natural Gas Company. I appreciate this opportunity to discuss how Mojave and New Mexico natural gas producers can work together to satisfy the needs of California's natural gas consumers.

Mojave is a partnership between subsidiaries of El Paso Natural Gas Company and Enron Corporation. Mojave has proposed to build an approximately 380-mile long pipeline capable of transporting a minimum of 400 MMcfd (million cubic feet per day) of natural gas from connections with El Paso Natural Gas Company and Transwestern Pipeline Company near Topock, Arizona to the enhanced oil recovery (EOR) fields outside of Bakersfield, California. Mojave will be a transportation-only pipeline, which means that Mojave itself will make no purchases and sales, but instead will serve as a conduit between natural gas producers and consumers. Mojave will provide a direct link between Southwest producers and California consumers, primarily those engaged in EOR production and related cogeneration activities.

Mojave offers New Mexico producers new opportunities to compete for California markets. The EOR and related cogeneration market has an increasing need for the natural gas, spurred both by the country's need for the oil that the EOR producers can provide and by the producers' need to power their projects with an economical, clean-burning fuel. Mojave will offer the EOR market access to the rich natural gas reserves of the Southwest.

Based on the transportation contracts Mojave already has signed, at least half of Mojave's load will be New Mexico gas. Mojave believes that New Mexico producers can use their abundant resources, including San Juan coal seam gas, to offer California consumers economical, reliable gas supplies. San Juan coal seam gas promises to be a long-term resource, which can be produced on a relatively low-cost basis. As a resource that is only now being developed, this gas currently is available for contract, unlike other reserves that may be already dedicated to existing contracts. Mojave anticipates that if New Mexico and other Southwest producers vigorously compete for the California load to which Mojave can connect them, they will be successful in serving a large share of this market.

Mojave recently entered into a settlement with Kern River Gas Transmission Company, a pipeline that would run from the Overthrust Belt of Wyoming to the Bakersfield area, and Southern California Gas Company (SoCal), one of California's local distribution companies. A copy of the Principles of Settlement is attached to my testimony. I believe that this settlement will facilitate the ability of New Mexico and other Southwest producers to compete to serve California markets, in that it virtually assures construction of the Mojave pipeline.

In brief, the settlement provides that a pipeline combining the features of both Mojave and Kern River will be built. Mojave will build a line with an initial capacity of 400 MMcfd from Topock to Barstow, California, as previously planned. Also as previously planned, Kern River will construct a 700 MMcfd facility from Opal, Wyoming to Barstow. Instead of constructing two separate pipelines from Barstow on, however, one pipeline with an initial capacity of 1.1 Bcfd, will be built from Barstow to Bakersfield. Mojave will own 400 MMcfd in capacity on that line and Kern River will own 700 MMcfd. Both Mojave and Kern River will have the ability to interconnect with SoCal.

Mojave and Kern River will have completely separate rates. Moreover, Mojave, Kern River and SoCal will compete to serve California markets. All of Mojave's and Kern River's facilities will be open-access, enabling customers to contract with the producers of their choice, and enabling producers the ability to compete for EOR and other load.

This settlement greatly enhances the access of New Mexico producers to California markets. The settlement resolves the largest part of the hotly-contested litigation that has surrounded the competing proposals, making it possible for Mojave to be in operation by mid-1991, assuming all regulatory approvals are received. We believe that the Federal Energy Regulatory Commission and the Public Utilities Commission of the State of California will be pleased by this settlement and will work to speed its implementation. Thus, an enhanced connection between the Southwest and California may soon be in place. Moreover, Mojave's share of the cost of a combined project will be less than the cost of a stand-alone project. As a result, Mojave's rates should drop, further

increasing the competitiveness of Southwest suppliers. In addition, through possible interconnection with SoCal, the settlement may enhance Southwest producers' ability to serve not just the EOR market, but also SoCal and other end-users off the SoCal system. Finally, the direct link into California will give New-Mexico producers the capacity to compete against the projects being proposed to increase the flow of Canadian gas to Southern California. Mojave believes that American producers can provide the gas that California needs and Mojave will be an important piece of the economic transportation puzzle that must be solved to win the competition.

In sum, Mojave believes that its project provides an increased ability for New Mexico and other Southwest producers to compete to serve California's large natural gas market. The settlement I have discussed will facilitate the construction of the Mojave project, thereby making this improved link to California a reality. With vigorous competition, Southwest producers will reap the benefits of this new project.

Thank you. I would be happy to answer any questions you may have.

PRINCIPLES OF AGREEMENT FOR  
MOJAVE PIPELINE COMPANY, KERN RIVER  
GAS TRANSMISSION COMPANY AND  
SOUTHERN CALIFORNIA GAS COMPANY  
SETTLEMENT AGREEMENT

WHEREAS, Mojave Pipeline Company (Mojave) submitted an application under Section 7 of the Natural Gas Act to the Federal Energy Regulatory Commission in Docket No. CP85-437-000 on April 15, 1985 proposing the construction of a new interstate natural gas pipeline system commencing at Topock, Arizona with terminal points in Kern County, California; and

WHEREAS, Kern River Gas Transmission Company (Kern River) submitted an application under Section 7 of the Natural Gas Act to the Federal Energy Regulatory Commission in Docket No. CP85-552-000 on May 31, 1985 proposing the construction of a new interstate natural gas pipeline system commencing in southwestern Wyoming with terminal points in Kern County, California; and

WHEREAS, Applications in support of the Mojave proposal were submitted by Transwestern Pipeline Company and El Paso Natural Gas Company and an application in support of the Kern River proposal was submitted by Northwest Pipeline Corporation; and

WHEREAS, the Mojave, Kern River and related applications were consolidated for decision by the FERC in an order issued on May 19, 1986; and

WHEREAS, on January 13, 1989, the Commission issued an order determining that the Mojave and Kern River projects could be built in an environmentally acceptable fashion with appropriate mitigation; and

WHEREAS, on October 3, 1988, Mojave filed an application pursuant to the Federal Energy Regulatory Commission's optional certificate regulations seeking alternative authority under these procedures for the construction and operation of its proposed pipeline system; and

WHEREAS, various California parties, including Southern California Gas Company (SoCal), have opposed the applications identified herein; and

WHEREAS, on May 8, 1989, the Commission granted Mojave's alternative optional certificate (OC) application, which is currently subject to rehearing; and



WHEREAS, the traditional Section 7 applications of Mojave, Kern River, Transwestern, El Paso and Northwest remain pending before the Commission; and

WHEREAS, the parties desire to resolve the differences between them in a manner which preserves each party's opportunity to compete for gas transportation loads in the state of California and elsewhere; which increases the competitive gas options of shippers and consumers of gas in California and elsewhere; which is economically efficient; which limits unnecessary environmental impacts; and which facilitates the parties' obtaining necessary regulatory approvals and commencing construction of their proposed facilities at the earliest practicable date;

NOW THEREFORE, Kern River, Mojave and SoCal hereby agree to enter into a definitive settlement agreement consistent with these purposes and based on the following principles:

I. Pipeline Locations

- A. Mojave shall build its pipeline along its proposed route from Topock, Arizona to Kern County, California.
- B. Kern River shall build its pipeline along its proposed route from Opal, Wyoming to Kern County, California.
- C. The Mojave and Kern River pipelines shall converge at a point within the environmental corridor near Barstow, California (the interconnection point) downstream of which the projects shall utilize a common piece of pipe. SoCal, Mojave and Kern River acknowledge that the actual location of facilities, including possible compression, at or in the vicinity of the interconnection point will depend primarily on environmental considerations, although engineering and economic factors also will be taken into account. Mojave and Kern River shall use their best efforts to assure the optimal interconnection of their pipelines in light of these considerations.

II. Size of Pipelines

- A. Mojave shall initially be capable of delivering 400 MMcfd to the interconnection point.

- 3 -

- B. Kern River shall initially be capable of delivering 700 MMcfd through a 36" pipeline to the interconnection point.
- C. The pipeline system west of the interconnection point shall initially be designed to deliver 1100 MMcfd (1.1 Bcfd).

### III. Construction, Ownership and Operation of Pipelines

- A. Kern River and Mojave shall each own, construct and operate the eastern segments of their respective pipelines to the interconnection point. Kern River and Mojave shall each own an undivided interest in the entirety of the pipeline system extending west from the interconnection point to the Kern County oil fields, which percentage interests shall be 7/11 of such system for Kern River and 4/11 of such system for Mojave. Kern River and Mojave shall each be responsible for the costs of construction, operation and maintenance attributable to their respective ownership interests in such system. Kern River and Mojave shall each be responsible for the costs of construction, operation and maintenance attributable to their respective ownership interests in such system. Kern River and Mojave shall control 7/11 and 4/11, respectively, of the capacity of the jointly-owned pipeline system west of the interconnection point.
- B. Mojave shall construct and operate the segment west of the interconnection point, including all future expansion, subject to a construction, operation and maintenance agreement to be entered into with Kern River by August 31, 1989. Kern River shall reimburse Mojave for its proportionate share of the direct costs of operation and maintenance of the pipeline system west of the interconnection point.
- C. Kern River and Mojave shall not commence construction until final orders approving the construction and operation of the facilities contemplated by this agreement are issued and are no longer subject to rehearing, unless the parties otherwise mutually agree.

#### IV. Capacity Utilization

- A. Mojave and Kern River may each separately enter into an interconnection agreement with SoCal to allow shippers making delivery to SoCal access to Mojave and Kern River.
- B. SoCal shall commit to 150 MMcfd of firm capacity utilization on Kern River, subject to terms and conditions acceptable to Kern River and SoCal.
- C. Mojave and Kern River shall each have the right to expand their respective systems, including the capacity of the pipeline system west of the interconnection point, to meet their respective firm customers' needs.

The company undertaking the expansion shall provide reasonable prior notice of its intent to expand; and shall be responsible for the costs of construction, operation and maintenance of the facilities associated with any such expansion. If unused capacity is available in the system, but is not owned by the party seeking to expand, the party requiring additional capacity shall contract for or lease such capacity from the other owner upon reasonable terms and conditions in lieu of constructing expansion facilities. The parties agree that neither they nor their affiliates will oppose any such expansion of the system downstream of the interconnection point or any expansion of Kern River's or Mojave's facilities upstream of the interconnection point.

#### V. Rates

- A. Mojave and Kern River shall have separate transportation rates from their respective receipt points to their respective delivery points in Kern County and shall be free to compete against each other and against other transporters.

#### VI. Jurisdiction

- A. Mojave and Kern River shall apply to the FERC within 60 days of the receipt of a final FERC certificate which is no longer subject to judicial review and which is acceptable to each of them for the

pregranted abandonment, under Section 7 of the Natural Gas Act, of the portions of the pipelines located within California and services thereon after an initial term of twenty years. Both Mojave and Kern River will be subject to FERC jurisdiction for twenty years from their respective in service dates, at which time their respective facilities located in California will transfer to CPUC jurisdiction as a result of the creation of Hinshaw pipeline companies.

- B. The transfer to CPUC jurisdiction of facilities located in California and services thereon is conditioned upon the approval of the FERC through the issuance of appropriate abandonment authorizations acceptable to Mojave, Kern River and SoCal, respectively.
- C. The transfer to CPUC jurisdiction of facilities located in California and services thereon is also conditioned upon the CPUC issuing a declaratory order which validates the sanctity of firm shipper agreements subsequent to the transfer by stating that (1) upon assuming jurisdiction over the above-described facilities within California, it will treat all rights under existing transportation contracts at the time of such transfer as being grandfathered, and those contracts shall continue to control the terms and conditions of service throughout the contract term as extended or modified so that the transporter and shipper customer will not be adversely affected by the transfer; and (2) by waiving the CPUC's General Order 96-A (or any other CPUC Order that authorizes modification of contract terms) with respect to all transportation agreements between Kern River and its shipper customers and Mojave and its shipper customers that are to be assigned to the new entity after the above transfer of ownership.

#### VII. Ownership of California Pipelines

- A. SoCal shall have the option to purchase a one-hundred percent interest in each pipeline's facilities located within California, 20 years after the in-service date, subject to negotiation of satisfactory agreements.

- B. SoCalGas' ownership interest in the respective California facilities of Kern River's and Mojave's pipelines and the price to be paid for the purchase of an ownership interest shall be subject to terms and conditions to be negotiated separately on or before August 31, 1989 between SoCal and Kern River and SoCal and Mojave.

#### VIII. Procedures

- A. Upon execution of the more definitive settlement agreement referred to in Paragraph VIII(G), each party and their affiliates as appropriate, shall withdraw their opposition to pending FERC applications and shall execute applicable releases and covenants not to sue. Pending execution of the more definitive settlement agreement referred to in paragraph VIII(G), the parties and their affiliates shall suspend their opposition to the respective projects and shall take only such actions as are strictly necessary to preserve their existing litigation positions, and the parties and the aforementioned affiliates shall not jeopardize Mojave's OEC certificate or any certificate which may be issued to Kern River through adjudication or litigation involving any other party.
- B. The parties contemplate that they will utilize Mojave's and Kern River's pending Section 7(c) certificate applications in the consolidated proceeding in FERC Docket Nos. CP85-437, et al., to obtain the objectives of their settlement. Accordingly, by August 31, 1989 Kern River and Mojave shall file any amendments to their respective FERC applications which they deem necessary to achieve the terms and conditions of the definitive agreement contemplated herein, and to obtain expeditious approval of this settlement. Nothing contained herein shall prejudice either Mojave's right to continue to seek a final OC pursuant to its application in Docket No. CP89-1.
- C. All parties shall use their best efforts to obtain appropriate revision of the Internal Revenue Code in order to qualify Kern River's and Mojave's projects for the federal Investment Tax Credit.

- D. Except as provided in Section VI.B and VI.C, with respect to each regulatory approval required to implement these principles of agreement, each party to these principles of agreement for whom the regulatory approval is required shall have the sole right to determine whether the approval is satisfactory. In the event any required final approval that is no longer subject to rehearing is not acceptable to the affected party, that party shall have the right, within 30 days after the date of the order of rehearing to cancel these principles of agreement and the definitive agreement contemplated herein upon 45 days written notice to the other parties.
- E. These Principles of Agreement will be executed and submitted to the CPUC by June 16, 1989 and, if appropriate, shortly thereafter to the FERC. A definitive settlement agreement including all necessary amendments to certificates and/or applications, including any new applications, shall be filed with the FERC by August 31, 1989.
- F. To the extent Kern River or Mojave determines that this agreement requires any modifications to the existing agreements between Kern River and its prospective shippers and Mojave and its prospective shippers, then Kern River or Mojave, as the case may be, shall seek the necessary modifications.
- G. These terms of agreement are subject to a more definitive settlement agreement to be entered into which must be satisfactory to all parties, including a satisfactory construction, operation and maintenance agreement.



- 8 -

IN WITNESS WHEREOF, the parties have executed these principles of agreement this 14th day of June, 1989.

MOJAVE PIPELINE OPERATING  
COMPANY

By [Signature]  
Name:  
Title: CEO

By [Signature]  
Name:  
Title: VP

On Behalf of  
MOJAVE PIPELINE COMPANY

KERN RIVER SERVICE CORPORATION

By [Signature]  
Name:  
Title: PRV'S

By [Signature]  
Name:  
Title: Executive V.P.

EL PASO MOJAVE COMPANY

By [Signature]  
Name:  
Title: VP

WILLIAMS WESTERN PIPELINE  
COMPANY

By [Signature]  
Name:  
Title: VICE PRESIDENT

ENRON MOJAVE COMPANY

By [Signature]  
Name:  
Title: President

KERN RIVER CORPORATION

By [Signature]  
Name:  
Title: PRV'S

On Behalf Of

KERN RIVER GAS TRANSMISSION  
COMPANY

SOUTHERN CALIFORNIA GAS COMPANY

By [Signature]  
Name:  
Title: General Vice President

Senator BINGAMAN. Thank you very much.

Our final witness on this panel is Greg Saunders, the Manager of Gathering and Processing Services for Northwest Pipeline out of Salt Lake City.

Thank you very much for being here.

**STATEMENT OF J. GREG SAUNDERS, MANAGER, GATHERING AND PROCESSING SERVICES, NORTHWEST PIPELINE CORP., SALT LAKE CITY, UT**

Mr. SAUNDERS. Thank you. Northwest Pipelines appreciates the opportunity to participate in the subcommittee meeting today.

If you are not familiar with Northwest Pipeline, Northwest has been a purchaser of conventional San Juan Basin gas for roughly 30 years, and today we are a gatherer, processor, treater and transporter of conventional and coal seam gas from the San Juan Basin.

Northwest is aggressively pursuing three opportunities with producers from New Mexico's San Juan Basin today. Those are conventional gas gathering and processing, coal seam gathering and treating and the pipeline expansion with Transwestern to increase transportation capacity from the San Juan Basin. I would like to speak briefly about each of those three items.

First, conventional gas gathering and processing. Northwest provides reliable and cost effective gathering and processing services in the San Juan Basin. Northwest has a good track record for working with producers from New Mexico in establishing market base rates, which facilitate the sale of San Juan Basin gas.

June 1989 has been our best month ever in moving gathered volumes from the San Juan Basin to El Paso and on to California markets. Currently we are moving roughly 160,000 MmBtu's per day under that type of service.

On coal seam gathering and treating, Northwest is uniquely positioned to gather and treat coal seam gas through its existing gathering and treating facilities already in place in San Juan Basin.

Several months ago Northwest announced a new philosophy of utilizing these existing facilities by commingling conventional gas and coal seam gas. We plan to expand our gathering system and treating capacity as gas is developed with three options, depending on the ultimate success of the drilling. First, to have commingled gathering and central treating; second, to have commingled gathering and satellite treating; and, finally, to have separate gathering and treating facilities from our conventional system.

The benefits of this strategy includes the system can be expanded as deliverability increases without the rate risks to producers of over or underbuilding gathering and treating facilities. And second we should have lower gathering and treating costs due to efficient utilization of existing facilities?

Producer response has been good to this philosophy. I would like to furnish a copy of a folder which describes our gathering and processing business for conventional gas as well as gathering and treating business for coal seam gas with my final testimony.

Finally, I would like to talk briefly about the pipeline expansion project. Douglas already addressed the Northwest/Transwestern project. We announced it on June 21. Northwest's portion of that

project would be to construct a 30-inch line from Ignacio to Blanco with a capacity of up to 500,000 Mcf's per day. Transwestern would continue on from Blanco to Thoreau. We believe that the benefits of this project include increased capacity to move gas from the San Juan Basin; access to the entire U.S. interstate market, including eastern markets, midcontinent markets, Gulf Coast markets. And finally it allows both conventional and coal seam gas to be marketed. There is concern from the producers that the coal seam gas may take up the capacity that has traditionally been used for conventional gas, and with this extra capacity that should not be the case.

I would like to also furnish with my final testimony a packet which describes this project, in case you have not received that.

In conclusion, Northwest sees considerable opportunities for pipelines, producers, end markets based on conventional and coal seam gas from New Mexico's San Juan Basin. Northwest is an active participant in gathering, processing and transporting San Juan Basin gas.

Again, we appreciate the opportunity to participate today and look forward to other opportunities of this type.

Thank you.

Senator BINGAMAN. Thank you very much.

Dr. Craig, let me ask you a question. I think the figure was 80 percent of the gas that you deliver goes to California; is that correct?

Dr. CRAIG. That is correct.

Senator BINGAMAN. What percent of that gas, that 80 percent that goes to California, comes from Texas, Oklahoma or other states to the east of us? Are you able to give me an estimate on it?

Dr. CRAIG. This is a pure guess. You are talking about all the supply areas other than New Mexico, maybe 60 percent; 55 to 65; 55 to 60 percent.

Senator BINGAMAN. So you are saying 55 to 65 percent of the gas going to California comes from states east of us?

Dr. CRAIG. East of you.

Senator BINGAMAN. From Oklahoma and Texas primarily?

Dr. CRAIG. Correct, Oklahoma and Texas. Now, remember, much of that gas is coming through our system because of spot market demand in California. That is not necessarily gas that we have contracted for.

Senator BINGAMAN. But it is gas going through your line?

Dr. CRAIG. Correct, going through our lines.

Senator BINGAMAN. Now, is it true that the delivered price of that gas from Oklahoma and Texas is cheaper than the gas coming out of New Mexico?

Dr. CRAIG. Recent numbers I have seen, Senator, would say netbacks from Anadarko range from \$1.15 to maybe \$1.30. The netbacks in the San Juan basin anywhere from \$1.15 to \$1.40, .45. And netbacks in the Permian Basin from little bit under a dollar to \$1.34.

Senator BINGAMAN. So you do not think there is a significant difference?

Dr. CRAIG. Not a significant difference.

Senator BINGAMAN. What would account for whatever difference there is, in your view?

Dr. CRAIG. The difference is that apparently Texas and Oklahoma producers become a little bit more aggressive on their pricing structure than New Mexico producers.

Senator BINGAMAN. With regard to Transwestern and Northwest Pipelines planned pipeline down to Thoreau, what are the obstacles that still remain to be overcome in order for that pipeline to go forward with construction?

Mr. KRENZ. As I mentioned in my testimony, right now we have an open season process underway. That will conclude the middle of July. When we get those responses back in, we will be able to evaluate the delivery patterns, the requests from the various shippers and where the volume will be redelivered at; and we will also be available to set the economic viability of the project.

Given that everything is positive, we expect by the end of August to have executed agreements with the various shippers, and by the end of October to have a final decision made to proceed with the project.

Senator BINGAMAN. So by October of this year you would have a final decision made, and then the pipeline would be actually delivering gas by mid-1991, did you say?

Mr. KRENZ. That is correct, Senator.

Senator BINGAMAN. How much slippage is built into that time frame? I mean if you do not get a final decision made this October, it is December instead of October, does that mean the use of the pipeline would be put off?

Mr. KRENZ. Obviously once we say go on a project, we are going to do everything we can to expedite its in-service. I guess we are still holding pretty firm to 18 months from the date we decide to proceed with the project as a reasonable in-service date for the pipeline.

Senator BINGAMAN. What kind of regulatory approvals are required in order for you to go forward?

Mr. KRENZ. Since we are planning to proceed with this project under 311, it is not subject to Natural Gas Act jurisdiction, so we need no federal approval. Obviously we are going to have to comply with all the state environmental and regulatory agencies and right-of-way permitting processes.

Senator BINGAMAN. On the Mojave project, Mr. Holland, let me just ask you a couple of questions.

As I understand, both Kern and Mojave filed 7(c) certificate applications and they will ask the commission to combine these certificate applications to reflect this agreement. What is involved in getting FERC's approval from this point forward as you understand it?

Mr. HOLLAND. Our settlement agreement, Senator, requires us to file whatever amendments are necessary in the 7(c) proceeding by August 31. Then the FERC procedural clock begins running. It is highly likely that because this settlement will settle most of the contested issues in that proceeding, which have caused it to actually drag out since April 1985, when the first applications were filed, we could see a certificate issued by the FERC by the end of this year that we could proceed under.

Senator BINGAMAN. You would expect that to happen. When did you anticipate that project would be complete? You indicated that in your testimony.

Mr. HOLLAND. Our target for startup is July 1, 1991.

Senator BINGAMAN. Let me ask one other question about the Mojave project.

What is the role of the California Public Utility Commission with regard to the Mojave project? Since I guess Southern California is involved in this, how does that pull in the commission there in California?

Mr. HOLLAND. As you know, Senator, they have no particular authority, jurisdictional authority, over Mojave or Kern River, so it is not that we have to seek a particular authorization from the CPUC. What we attempted to achieve in the settlement with Kern River and SoCal is an accommodation of some of the objectives that have been stated by the CPUC relative to their deliberations on new capacity into the State of California, which is obviously a serious concern to them.

Accordingly, we hope that what we have achieved is the removal of the CPUC as a litigant and an obstacle to going forward with the project.

Senator BINGAMAN. When will you know whether that is the case?

Mr. HOLLAND. I smile because I hope to hear virtually any day that that will be the case. I do not know that for sure yet. I can tell you that the reaction of the CPUC from the chairman on down through the legal staff has been extremely positive with one possible footnote to that, which we are attempting to work out with the CPUC. We are in daily contact with them, and we rather expect that we will have their full support in the FERC process.

Senator BINGAMAN. I am not sure who to direct this question to, but any of you can answer. Maybe Dr. Craig can make a run at it, or any of the rest of you.

Could you explain to me a little more how you transport gas to the East by displacement or backhaul? I do not understand how that works. If you could do that in 25 words or less, I will appreciate it.

Dr. CRAIG. Let me predicate it with some comments, Senator. I think what you are seeing is some competitive discussions by two or three pipelines around the table, which is probably very good. El Paso has been in the San Juan Basin since 1952. We have about 1.5 billion cubic feet per day capacity currently out of the basin. Incremental expansions of that capacity has relatively modest increases in cost. We will be as competitive as anybody in today's world.

Now, to talk about backhaul capability. We have a line that runs from Plains up through the San Juan triangle valve city, and we would physically repipe some of the line so that the molecules of gas could physically move from the valve city, which is near Thoreau, back to the East. And then conversely we could work exchanges out whereby the molecules do not necessarily have to move that direction, but we have gas attached to our system in the Anadarko over in West Texas. That gas could move to the East in lieu of San Juan Basin gas that would go to the East; and that is,



gas that would not move from Waja would be displaced by San Juan Basin gas going to the West. If that makes sense to you.

Senator BINGAMAN. All right. You keep track.

Dr. CRAIG. Yes, sir.

Senator BINGAMAN. They get credit for selling it in the East, regardless of which direction it goes?

Dr. CRAIG. Yes, sir.

Senator BINGAMAN. Did anybody else want to elaborate as to how you accomplish that? Nobody wants to add to it.

Mr. HOLLAND. John Craig has just been made my boss, and I am still just trying to educate him, Senator, how to explain backhaul.

Senator BINGAMAN. All right.

Mr. HOLLAND. The El Paso system transports about 700 million feet a day from the Permian to the center here in San Juan, every day. So when a San Juan producer comes to El Paso and says it wants to get gas sold to markets accessible by Permian pipelines—let us say he has 100 million cubic feet a day. We simply deliver up through that crossover line from the Permian 600 on that day. We leave 100 million in the Permian to represent the amount of gas that the San Juan producer wanted delivered down at that point. The volume of backhaul then can increase through that displacement mechanism until the entire 700 million that is flowing up the crossover line goes to zero.

At that point we have 700 million of Juan San gas being sold off-system in the Permian Basin. At that point as well, if a producer in the San Juan wants more gas sold to pipelines accessible off the Permian, we turn our pipeline around. Then we can start flowing 100 million apiece, 200, 300. So in effect we, as a practical matter, can transport 1,400 million a day using existing facilities from the San Juan to markets accessible out of the Permian Basin, which are markets throughout the West.

Senator BINGAMAN. The backhaul rates reflect the fact that there is not the need to transport the gas?

Mr. HOLLAND. The backhaul rates, sir, are discounted today down to about 8 cents on the mainline. They are extremely attractive rates.

Senator BINGAMAN. I appreciate the excellent testimony, and we do have another panel. So I will dismiss this panel at this point, and thank you all very much for coming.

Our final panel consists of three people; Mrs. Sylvia Little, Mr. Dan Owen and Daniel Gibson, accompanied by Gene Satrap.

Let me start with Sylvia Little, who is the President of Little Oil and Gas, Inc., and owner and operator of Curtis J. Little Oil and Gas in Farmington. Sylvia has testified previously before the committee. She always presents very informative and effective testimony in a very straightforward manner.

We appreciate you being here again today.

#### STATEMENT OF SYLVIA F. LITTLE, PRESIDENT, LITTLE OIL & GAS, INC., FARMINGTON, NM

Ms. LITTLE. Thank you, Senator.

First, I want to talk about the last testimony, and Senator Domenici went right back to Washington, D.C., and he had passed in



the Senate a memorial exempting the small producers from anti-trust prosecution when they were trying to co-op all of their gas, aggregating together. We did not want to feel guilty of price fixing, and we appreciated that.

And also I read in the Congressional Record report a speech that Senator Bingaman gave to the Senate, and he expressed very well some of the same feelings that we had expressed during that testimony, and we appreciate very much your taking our message back to Washington.

Senator BINGAMAN. Glad to do it. We will try to do it again after this hearing.

Ms. LITTLE. I will give a written copy so there will not be any problem. [Laughter.]

One of the most immediate problems, Senator, we have discussed already. We have discussed all the problems today. This one concerns the producers of natural gas having to market their own products. I have been marketing gas for other producers along with my own gas for two and a half years, ever since El Paso pipeline went to open access transportation.

I can assure you that there has always been plenty of demand for natural gas. I have always received calls every week from end users or brokers wanting to buy more gas. I can sell all the gas I can get, but you would not like the price.

Gas marketing on open access pipelines is a new and very specialized complicated industry in its own right today, and it is a burden to the independent producer. Here in New Mexico if you sell your gas at the right price and to the right shipper, your transportation problems could be minimal. The El Paso pipeline has worked out a lot of bugs that they had initially in open access, and things seem to be flowing a lot more smoothly. They are not perfect yet, but they are getting there.

If neither you nor your buyer are qualified shippers on the pipelines, then the transportation becomes unreliable because the shippers with the oldest contracts have priority, and they can bump other gas off the line anytime they want to ship their gas.

If you do have use of a grandfather contract to transport your gas, and you have a FAX machine and a modem so that one of your computers uses electronic mail, you can send your gas across the state or across the nation in an instant. It is incredible. However, reconciling the statement for the gas you sold requires six days, another computer and an advanced statistician.

But looking backwards a little bit, we want to realize when open access is really open access. Under El Paso's new FERC open access tariff provisions, there are about 25 shippers which have priority over all other uses of pipeline capacity. The largest percentage of volume belongs to Meridian, SoCal, PG&E and Southwest Gas. These are all utilities except Meridian.

New Mexico producers used to have real open access to El Paso's pipeline. Any producer could request and receive a pipeline hookup for his new well, whether or not he had a contract with El Paso, and the pipeline would buy the gas right there at the wellhead. That was open access. Sometimes under the new FERC tariff regulations it is neither open nor accessible.

But this same pipeline is full today as we just heard; not with New Mexico gas. And I think we all want to know why, Senator. Is it because Texas and Oklahoma gas is really cheaper for California utilities to buy, or is it because Texas and Oklahoma producers have the majority of the capacity in the pipelines tied up in the grandfather contracts?

Pipeline representatives met with the Four Corners gas producers in Farmington a couple of weeks ago. They said with all the coal seam gas coming on line, there would not be room any time soon for all the San Juan Basin gas to get through to California. These pipeliners seemed surprised when the producers asked about transporting gas on the Mojave pipeline. We were then told that the pipeline capacity was just about filled; and that if we wanted to get in, we should do it immediately because Canadian was being contracted to fill up the space that domestic gas was not going to use.

We got the impression that the San Juan Basin producers will still be queuing up to take turns transporting gas to, through or in spite of those 25 or so contract grandfather shippers who share capacity on El Paso's lines. I think it would be very interesting to know just how much New Mexico gas will be moving through El Paso's pipeline especially through Mojave.

The New Mexico independent producers are a very independent bunch. They are not used to hiring someone to sell their gas for them, or to handle their income accounts and contracts. Independents want to do everything themselves, so many producers just shut-in their wells and wait. They wait for higher prices; wait for less marketing complications; wait for the merchant pipeline to come back. They wait and they hope. That is where we are today with gas marketing, and it is a very difficult burden for most small, independent producers.

But, Senator, there is one other thing I would like to reemphasize that we have already talked about today. Basic use companies estimate that this year will mark the lowest number of rigs in operation since 1942. They further say that the independent producer accounts for a majority of gas drilling, and that the independents have traditionally looked at short-term gas prices as an indication on whether or not to drill. Major producers may boost their gas drilling expecting higher prices in the long term.

Drilling for coal seam gas has become popular with major producers lately, because someone realized that tax credit was still available. Coal seam gas may retain some of its popularity after the tax credit expires, because it is easier to locate and closer to the surface. I like to compare coal seam gas to the zinfandel grape. We used to plug it off as a trash gas because of its high water and low Btu content.

The tax credit inspired the coal seam drilling because the price of gas at the wellhead is too low to pay for finding new gas fields. The market price of natural gas has sought its level and found it, just as the FERC promised it would. Now that we know the value of gas, it is time we find the value of replacing the depleting reserves.

We can continue to sell gas at the current wellhead prices until the supply runs out. The experts tell us that the currently produc-

ing wells will not run completely out for about 30 years. Does that mean kids who are just graduating from high school today will not have natural gas supply at all by the time they get my age?

The amount of natural gas imported last year was 30 percent more than the year before. Perhaps in 30 years we will have enough pipelines to Canada so we do not have to worry about domestic production.

When most of us were getting \$3.50 for our gas, it was coming across the Canadian border at \$5.50. I know because I was paying attention. As the domestic gas price came down, Canada had to meet it in order to be competitive. Canadian gas is not cheap gas. Competitive, yes; cheap, no. Canada does not even provide 10 percent of our natural gas consumption today, but then there was a time when OPEC did not provide that much of our oil either.

All the gas-producing states in this part of the country are wooing the California market, including New Mexico. But California may not be New Mexico's only market for much longer. Now that most of the gas contracts have been obligated, bought down or bought out, the Fuel Use Act has been repealed and price decontrol, we are looking at more market potential than ever before, and we have the promise of new pipelines to get it there.

But what good is all the market potential in the world if you do not have a wellhead price that will give you the cash flow to keep drilling and exploring. We are getting a lot of encouragement to drill. New IRS regulations may provide tax credits and incentives, and that will help. Pipeline contracts that contain take-or-pay clauses help. Shippers and end users offer long-term gas contract. That seems attractive to some producers.

The Gasoline Research Institute is developing new and better ways to use natural gas. FERC urges us to learn to operate more efficiently, so we begin drilling again. BLM declares their partnership with us in this state and assures us that they are trying to be more cooperative in enforcing needless, expensive regulations, and we appreciate that.

Our state gas marketing department sends the governor and other representatives to Washington, to California, or wherever they are needed to promote New Mexico gas, to protect our interests and to enlarge our market share.

The state oil conservation division is trying to rework their production allowable system so more producers will be able to produce all those wells that are shut-in for overproduction. Our Congressmen are trying to do what they can do at the Federal level.

These are all very helpful and very much appreciated. But cash flow, such as in wellhead price is necessary if indeed the object is to continue the business of exploration and drilling. The EPA has plans to have 1 million clean-fuel vehicles on the road by 1997, and there is a bill in the House of Representatives now to give 20 percent tax credit for converting your vehicle to natural gas or other clean fuels.

And many of the old coal-burning power plants will be making some changes in order to burn natural gas along with their coal to dramatically reduce undesirable emissions and acid rain. Two nuclear power plants are trying to convert to burning natural gas. It is cleaner, cheaper and a lot less hassle.

The California utilities say that they really want to buy gas from New Mexico, but are they and their customers willing to pay for natural gas supply future, which can only be assured by continued exploration and drilling.

The Department of Energy has estimated our proven reserves to be about 187 Tcf in this country. The Director of the Potential Agency at the Colorado Schools of Mines has estimated that our total reserves should be about 983 Tcf, trillion cubic feet. That is 80 percent of unfound reserves. They might as well not even be there if no one is willing to pay for exploration and development of those reserves.

Until producers receive a wellhead price that allows replacement, rather than liquidation of their business assets, what do we do? It was exciting while it lasted to think that natural gas was becoming the preferred fuel for electricity generation. In spite of the government's new emphasis on clean air, the power producers, those builders of power plants, are taking a closer look. Price and transportation of natural gas are unstable, and available reserves are shrinking. Power plants have to have a long-term, 20-year fuel supply before they can even build a plant. Who knows how much gas will be available, and what the cost might be during the next 20 years. Is it any wonder that more interest is being shown in solid fuels? Their perception is that gas may be in short supply again.

Enron anticipates a shortage of natural gas to begin in the early 1990's, so they signed up for long-term liquid natural gas supplies from Algeria, and beginning the year after that from Norway.

The last time a shortage was perceived the NPPA of 1978 was born. There are a lot of things I could say about that, but we will let it slip for now. A couple of years after that, when burner tip prices began going higher and higher, the consumers began to revolt, particularly those notorious California consumers.

The FERC was publishing a newsletter about that time called "Monitor," to which I subscribed and read thoroughly, to let us know what was going on in their offices. Right on the front page of one of the last issues was their statement of intent to lower the price of natural gas at the wellhead; not the burner tip, but wellheads. Perhaps that is when the NNPA controls should have been changed, rather than changing the way the whole industry does business. But they succeeded in their mission, and our industry will never be the same.

The sad part is the core consumer price never dropped more than 5 percent at the burner tip. We are getting now maybe one-third to 25 percent of the price we were getting just a few years ago. Under the new system with all the middlemen, if the wellhead price ever rises to include replacement costs again, the consumers' burner tip cost could more than double.

I know my time is running out, Senator, but there is one other observation that I previously made, and I would like to repeat it here. One of the most notable trends in the oil and gas business today is the change of ownership. Many times the independent producer has been willing to settle because owning and operating producing properties only serve the real purpose of getting together enough money to drill the next well.

Today, even though netback is below replacement cost and often below leasing and operating costs as well, investment money is plentiful; not risk money. Some buyers are interested in a secure, long-term supply of gas. Some investors want to buy producing properties, especially with potential in-field drilling location for what they consider to be a quick return on their money.

The independent producer is selling because his passion for exploration and drilling can no longer be supported by the sale of the production he has developed. The new owners think they have a bird nest on the ground. They will probably recover their investment in five years or less. But where will the new reserves come from? The new investment owners do not know how to develop new reserves, and they have no reason to know. That is not their business. That is the business of the independent oil and gas man or a woman as the case may be. Or that was the business of the independent, the big time spender, the risk taker, the thrill seeker, the wildcatter. It is about time for some effective affirmative action toward the oil and gas industry.

We are anxious to work out a federal energy policy that will eliminate this roller coaster ride. Give us the right incentives, and we will dig up all those rigs from their rusty graveyards and put this industry back to work.

Thank you, Senator.

[The prepared statement of Ms. Little follows:]



## U.S. SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

## Testimony for Subcommittee Hearing

June 29, 1989

Farmington, N.M.

SENATOR, GUESTS: My name is Sylvia Little. I am an oil and gas producer, operator, and marketer from Farmington. I thank you for the opportunity to testify before you once again. After your last hearing in Farmington, more than two years ago, Senator Domenici went right back to Washington and sponsored a memorial which was approved by the Senate to exempt small independent producers from anti-trust prosecution when marketing their natural gas on a co-op basis. And I later read in the Congressional Record a speech which Senator Bingaman made to the Senate in which he outlined problems and sentiments I had expressed in my testimony. Thank you for carrying our message back to Washington, Senator.

One of the most immediate problems, Senator, concerns the producers of natural gas having to market their product. I've been marketing gas for other producers along with my own gas for two and a half years, ever since El Paso Pipeline went to open access transportation, and I can assure you that there has always been plenty of demand for natural gas. I've always received calls every week from end-users or brokers wanting to buy more gas. I can sell all the gas I can get. But you might not like the wellhead price.

Gas marketing on an Open Access Pipeline is a new and VERY complex and specialized industry in its own right, and a burden to the Independent Producer. Here in New Mexico, if you sell your gas at the right price and to the right shipper, your transportation problems could be minimal. El Paso's pipeline has worked out a lot of the bugs in their computer system. It's



not perfect yet, but getting there. If neither you nor your buyer are qualified shippers on the pipeline, then transportation becomes unreliable because the shippers with the oldest contracts have priority and can bump other gas off the line any time they want to ship their gas.

If you do have use of a grandfather contract to transport your gas, and you have a fax machine and a modum so that one of your computers use electronic mail, you can send your gas across the state or across the nation in an instant. Reconciling the statement for gas you've sold requires six days, another computer and an advanced statistician.

But, when is Open Access REALLY Open Access? Under El Paso's new F.E.R.C. Open Access Tariff provisions, there are about 25 shippers which have priority over all others for use of pipeline capacity....the largest percentage of volume belong to Meridian, So Cal, PG&E, and Southwest Gas (these are all utilities except Meridian) New Mexico producers used to have REAL Open Access to El Paso's pipeline. Any Producer could request and receive a pipeline hookup for his new well - whether or not he had a contract, and the pipeline would buy the gas there at the wellhead. THAT was Open Access! Under the new FERC Tariff regulations, there is nothing open nor accessible about the pipeline now.

This same pipeline is full today - but not with NEW MEXICO gas. Why, you ask? Is it because Texas and Oklahoma gas is cheaper for California utilities to buy? Or is it because those Texas and Oklahoma producers have the majority of the capacity in the pipelines tied up in grandfather contracts?

Pipeline representatives met with the Four Corners Gas Producers in Farmington a couple of weeks ago. They said that with all the coal seam gas coming on line, there won't be room for all the San Juan Basin gas to get through to California.

The pipeliners seemed surprised when one of the producers asked about transporting gas on the Mojave pipeline. We were then told that the pipeline capacity had just about been filled, and that Canadian gas was being contracted because they didn't have enough domestic gas to fill the line.

We got the impression that the San Juan Basin producers will still be queuing up to take turns transporting gas to, through, or in spite of those 25-or-so grandfather shippers who share capacity on El Paso's line. BUT I think it would be interesting to know how much New Mexico

GAS will be moving through El Paso's pipeline, and especially through Mojave.

New Mexico Producers are an independent bunch. They're NOT used to hiring someone to sell their gas for them or handle their income accounts and contracts. Independents want to do everything themselves. So...many producers just shut in their wells and wait. Wait for higher prices. Wait for less marketing complications. Wait for the merchant pipeline to come back. Wait, and hope.

Senator, I would like to re-emphasize the serious, long-range problem that faces us. Baker Hughes Company estimates that this year will mark the lowest number of rigs in operation since 1942. They further say that the Independent Producer accounts for a majority of gas drilling, and that the Independents have traditionally looked at short-term gas prices as an indication whether or not to drill. Major producers may boost their gas drilling, expecting higher prices in the long-term.

Any producer will readily tell you these days that lower wellhead prices and higher production costs have finally caught up with us. We can ALL see the detrimental effect on every segment of the oil and gas industry, on governmental revenues, and eventually on the consumer.

Drilling for coal seam gas has become popular with the major producers lately because someone realized the tax credit was still available. Coal seam gas may retain some of its popularity after the tax credit expires because it's easier to locate, and closer to the surface. I like to compare coal-seam gas to the Zinfandel grape. We used to plug it off as a trash gas because of its high water and low BTU content. Now, that's all they're drilling!

The tax credit inspired coal seam drilling because the price of gas at the wellhead is too low to pay for finding NEW gas fields. The market price of natural gas has sought its level and found it, just as the F.E.R.C. promised it would. Now that we know the value of the gas, it's time we found the value of replacing the depleted reserves. We can continue to sell gas at the current wellhead price...until the supply runs out. The experts tell us that the currently producing wells won't run completely out for 30 years. Does that mean the kids who are JUST graduating from high school won't have a natural gas supply at all by the time they get to be my age?

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Canada doesn't provide even 10% of our national gas consumption today; but, there was a time OPEC didn't provide that much of our oil, either.

All the gas-producing states in this part of the country are wooing the California market, including New Mexico. But

California may not be New Mexico's only market for much longer. Now that most of the gas contracts in the country have been abrogated, bought down or bought out, the Fuel Use Act repealed, and price decontrolled, we're looking at more market potential than ever before...and we have the promise of new pipelines to get it there.

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Our State Gas Marketing Department sends the governor and other representatives to Washington, to California, or wherever they're needed to promote New Mexico gas, to protect our interests, and to enlarge our market share. The State Oil Conservation Division is trying to rework their production allowable system so more producers will be able to produce all the wells that are shut-in in this state for overproduction. Our Congressmen are trying to do what they can at the Federal level. These are all very helpful, and very much appreciated; but CASH FLOW ( as in WELLHEAD PRICE) is necessary if, indeed, the object is to continue the business of exploration and drilling.

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the road by 1997, and there is a bill in the House of Representatives now to give 20% tax credit for converting your vehicle to natural gas or other clean fuels.

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And the California utilities say they really do want to buy gas from New Mexico. But are they and their customers willing to pay for a natural gas supply future which can only be assured by continued exploration and drilling?

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It was exciting while it lasted to think that natural gas was becoming the preferred fuel for electricity-generation. But, in spite of the government's new emphasis on Clean Air, the power-producers, those builders of POWER PLANTS, are taking a closer look. Price and transportation of natural gas are unstable, and available reserves are shrinking. Power plants have to have long-term, 20-year, fuel supply contracts before they can begin building a plant. Who knows how much gas will be available and what the cost might be during the next 20 years? Is it any wonder that more interest is being shown in solid fuels. Their perception is that gas may be in short supply again.

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I know my time is running out, Senator, but there is one other observation I have made previously, and would like to repeat here.

One of the most noticeable trends in the oil and gas business today is the change in ownership.

Many times the Independent Producer has been willing to sell because owning and operating producing properties only served the REAL purpose of getting together enough money to DRILL the next well. Today, even though netback is below replacement cost, and often below lease operating and marketing costs as well, investment money is plentiful...but not risk money.

Some buyers are interested in a secure, long-term supply



of gas. Some investors want to buy producing properties - especially with potential infield drilling locations, for what they consider to be a quick return on their money.

The Independent Producer IS selling - because his passion for exploration and drilling can no longer be supported by the sale of the production he's developed.

The new owners think they have a birdnest on the ground. They will probably recover their investment in five years or less. But where will the NEW reserves come from? These new investment owners don't know how to develop NEW reserves, and they have no reason to know. That's not their business. That's the business of the independent oil and gas man (or woman, as the case may be). Or that WAS the business of the independent. The big-time spender. The risk-taker. The thrill-seeker. The WILDCATTER.

It's about time for some affirmative action toward the oil and gas industry. We're anxious to work out a Federal energy policy that will eliminate this roller coaster ride. Give us the RIGHT incentives and we will dig up all those rigs from their rusty graveyards and put this industry back to work!

Senator BINGAMAN. Thank you very much.

I will have some questions here in a minute. Let me hear from the other witnesses first. Mr. Ray Owen, who is the Manager for Regional Operations for Meridian.

Ray, we very much appreciate you being here. Please go ahead.

**STATEMENT OF RAY OWEN, MANAGER, REGIONAL OPERATIONS,  
MERIDIAN OIL, INC., FARMINGTON, NM**

Mr. OWEN. Thank you, Senator. I appreciate the opportunity to speak to you today.

Of several topics identified by the subcommittee for discussion at today's hearing, we will direct our comments to the issue of coal seam methane gas development in New Mexico.

Farmington is one of four regional offices of Meridian Oil. Farmington's region properties are concentrated in the San Juan Basin. Farmington region is Meridian's dominant gas-producing region, accounting for 79 percent of its gas reserves and 45 percent of 1988's daily gas production.

Approximately 17 percent of Meridian's 1987 capital expenditures and 49 percent in 1988 were made in this region. And Meridian anticipates 47 percent of 1989 capital expenditures to be made in this region. Meridian currently produces over 20 percent of total production in the San Juan Basin and has had operations in the basin since the early 1950's.

The most significant product in the Farmington region involves the development of present coal seam gas reserves. As a result of a successful coal seam pilot program that commenced in 1986, Meridian has implemented a multiyear development project, which has added significant gas reserves in its asset base. Through December 31, 1988, Meridian spent approximately \$63 million to drill, recomplete or participate in 200 gross wells and expects to spend approximately \$70 million to drill, recomplete or participate in an additional 200 gross wells in 1989.

Current gross production from all coal gas wells drilled today is approximately 150 million cubic feet per day. Additional expenditures for the associated gathering, water disposal and the gas treating facilities through December, 31, 1988, were \$12 million and are expected to be \$81 million for 1989.

Production from coal seam gas wells drilled prior to 1991 qualifies for Federal Income Tax credits under the incentive drilling provisions of the Fuel Use Act, as modified by the Technical and Miscellaneous Revenue Act of 1988. The 1988 Tax Act also provides for indefinite credit carry-over of these credits limited by alternative minimal tax.

These nonconventional field tax credits have played an integral part in Meridian Oil's development of its coal seam gas reserves. With the incentives provided for under the current tax law and the technical expertise derived from its operations today, Meridian Oil feels that the future coal seam gas development has great potential.

Meridian believes that application of this new technology will significantly enhance the production and the profitability of coal seam gas for many years to come.

Thank you.

Senator BINGAMAN. Thank you very much.

Our final witness, two witnesses really, but I do not know how you are going to handle this. I guess Dan is going to be the spokesman for the group. The witnesses are Dan Gibson, Vice President of Gas Supply for Pacific Gas and Electric Company in San Francisco. He is accompanied by Gene Satrap, who is the Manager of the Gas Supply Management for that company.

We very much appreciate you coming all the way from San Francisco to participate in this hearing. We are very interested to hear your testimony.

**STATEMENT OF DANIEL E. GIBSON, VICE PRESIDENT, GAS SUPPLY, PACIFIC GAS & ELECTRIC CO., SAN FRANCISCO, CA, ACCOMPANIED BY GENE SATRAP, MANAGER, GAS SUPPLY MANAGEMENT**

Mr. GIBSON. Thank you, Senator. It is really a great pleasure for Gene Satrap and I to be here today in Farmington. It is the heart of the San Juan Basin and where a good deal of our gas supply has come from over the last 30, 35 years, and we hope we are going to see a good deal of that gas supply for our market area come from this San Juan Basin in the next 30, 35 years.

PG&E is the local gas distribution company and electric distribution company, too, as the name implies, in northern and central California. We serve gas either by sales or by transport to over 3.2 million customers in that service area. We are regulated by the public utilities commission.

I have a message from that market to New Mexico gas producers. We want your gas. We want it now, and we want it in the future; and we are willing to pay competitive prices for that gas or to carry that gas for you to other buyers within our market area on a free and open-access basis.

PG&E's regulated rates are based on the amount of throughput on our system, thus whether the throughput is the gas we buy and we resell, or simply what we are carrying for others, it is a matter of economic indifference for us.

Alternative fuels, especially fuel oil, is highly competitive in our area. And if gas costs too much compared to that alternative fuel, our customers simply leave our system. As a matter of fact, those are those notorious California customers, Sylvia, that you referred to, because back in 1983 when gas prices soared past parity with alternative fuel oil prices, PG&E lost about two-thirds of its competitive industrial market; went off the system. We have since gained back most of that industrial load now that gas prices have come down, and we have been pushing the gas on through, but they are price sensitive.

A major portion of our system is operationally dependent on gas from the Southwest. We need your gas from the Southwest, and specifically we would like to get it from New Mexico because it is the closest large supply area out of state for our area. We need that gas across the El Paso system to keep the southern part of our system full.

Those supplies are essential to meet our own gas requirements, and those are for residential and small business customers and our own electric generating plants that use about 30 to 35 percent of the total amount of gas that we bring into our service area. Your gas can also share in meeting the needs of the competitive noncore commercial and industrial markets. Those markets that can and do choose other fuels.

I have some exhibits in my prepared testimony that I would refer you to, Senator, that illustrate first the loads on PG&E market sector during 1988, and you will see about 32 percent what we call core residential and small business customers for which PG&E has a continuing utility obligation to serve. In other words, we have to buy the gas for them and have to resell it to them. We have that obligation.

About 35 percent of our total throughput, as I said, last year was PG&E's own power plant load, and the competitive noncore market comprised about one-third, about 33 percent, of that market. That is, the market that can buy gas from us. They can buy gas from other people we carry, or they can go off the system and use alternative fuels. That includes some sales and transport into southern California through our system.

I have another exhibit that illustrates how that competitive noncore market demand for gas was met in our service area during 1988. You will see, when you look at that, that about 45 percent of that competitive market was met by gas that was sold to those customers by someone else other than PG&E. In other words, about 45 percent of that competitive market is a market that we simply carried gas for. The other 55 percent we sold to under a variety of different kinds of contracts.

Noncore customers in California have the option to choose from third-party suppliers, including New Mexico suppliers, obviously, and have the gas transported to them and obviously they are exercising that right.

The next exhibit that I have and I refer you to illustrates the major role of Southwest gas in PG&E's purchase for resale. In 1988 Southwest gas met about one-third of PG&E's resale gas demand. About 18 percent of the gas that we purchased from the Southwest came from right here in New Mexico. We purchased gas to meet that public utility obligation to the core and serve our power plants and to compete to supply the competitive noncore market.

So when we buy gas, it is not surprising we look to the price competitiveness, reliability and flexibility of supply. And we have negotiated a variety of supply arrangements, especially over the last year for Southwest gas to strengthen our position in the market. We are anxious to continue the strong presence of Southwest gas in our market.

When Gene Satrap and his people came down here, when they first started buying on the open market, started buying mostly spot gas. Now, we are moving more to longer termed contracts; contracts with a variety of flexible provisions; contracts that provide for buyer/seller renegotiation of the price perhaps once a year. That is how we expect that we are going to be able to have gas committed to us over the long term, but still have that gas priced at a price which is fair to both the buyer and the seller.



The relative prices that we are experiencing this year are shown in another exhibit. And the average shown for the Southwest producers, that is about \$2.62 on the average, delivered across the El Paso system into our market area masks the fact that some Southwest producers are being very successful in competing with gas from other areas, such as Canada. When they do provide prices which are competitive on its average with the prices of gas that we are buying from Canada, we do treat them on exactly the same basis and take their gas high/low factors. That is our intention, and that is our policy to continue to stick with it.

We are, as I, say, regulated by the public utilities commission, who are one the most activist regulatory agencies in the country. They insist that we follow a least-cost purchasing policy, so that even if we felt that we had a choice—even if we felt and we wanted to exercise another choice, we have to buy the cheapest gas that is available to us, given the range of reliability that we need.

That does not mean that we always buy the cheapest gas, which sometimes during short supply period or high supply periods is spot gas, we do not. We buy a mix of supplies that is designed to provide the reliability that our market needs. And when we do that, we are looking for the supply mix which gives us that cheapest price.

We continue to be concerned, looking at the Southwest supply area for us, about transportation reliability, and some of that has been mentioned by a previous speaker, the cost of transportation and the production area costs on the El Paso system. We think that has been getting in the way of New Mexico producers' pursuit of the California market.

We are also concerned when we look at New Mexico market and try to figure out ways of buying gas on a longer term basis, what the impact is going to be on reliability of the proration laws. We want to assure that when we sign up gas from a particular producer or group of producers, that that gas is going to be there every day that we need it. And we are concerned that sometimes unless we get lot smarter in dealing with proration laws than we are now, we are going to see that gas cut off because limits have been reached on wells for producers.

PG&E is doing several things to create a more reliable and diverse transportation network from the Southwest into California, into our California area. Again, that is either for us to purchase the gas across that system or to transport gas for others across that system. First thing that we are engaged in are settlement negotiations with El Paso before the FERC to resolve the rate and the related gas supply and the transport issues that are involved in that complex of long-running cases.

We have also proposed an integrated capacity priority program to allow noncore customers, that is our large industrial competitive customers, to increase their transport reliability on both PG&E and El Paso. We are amenable to market changes in that proposal or to a capacity brokering program that somebody else comes up with. If El Paso comes up with a better one that gives us the kind of protection that we need for our core customers, then we are certainly willing to accept that.

Another point, we are supporting what is called the Colorado River Pipeline Project, which is something we are very proud of. It

is a very short pipeline that is being proposed to be built in between Transwestern and ourselves at the Colorado River to give us for the first time a connection to the Transwestern system.

The Transwestern system right now, for those of you who are not familiar with it, runs directly to the Southern California Gas Company system. We have some rights to carry gas across that system, but it has not done us much good because we can get up to the California border but we cannot get across Southern California Gas. So we are trying to fix that up. Once we do that, we are going to have another outlet for New Mexico gas producers selling gas across the Transwestern system, because they will be able to access the market area of PG&E. We are very excited about that.

We propose to construct a FERC-related expansion off our southern pipeline system to the New Mexico border to help meet the enhanced oil recovery market demand for FERC regulated capacity. We are willing to do that in connection with any of the proposed EOR pipeline projects that are now currently before the FERC. The PUC approves of that kind of expansion provided that capacity reverts to the PUC jurisdiction as EOR service-ins.

Finally, another little project that we have begun, and we are very proud of, we started a new Gas Match program. It is what we call our on-line electronic bulletin board that provides producers an idea of what gas we would like to purchase on a particular day; gives them the idea of how much and where; and when we want to do it. So that small producers will have a better opportunity, we hope, to sell directly to us.

Let me sum up, Senator, by saying it is in PG&E's interest that Southwest suppliers continue to have a strong market presence in our market area. New Mexico gas is right next door to us. It is a strategic supply for our market area. The proximity offers a competitive advantage, we think, for both of us; helps the New Mexico producers by higher netbacks; helps us by keeping our pipeline full. Let us work together for mutual benefit.

I am available for questions.

[The prepared statement of Mr. Gibson follows:]



Statement of Daniel E. Gibson  
Before the Subcommittee of  
Mineral Resources Development and Production  
June 29, 1989

I am Daniel E. Gibson, Vice President - Gas Supply of Pacific Gas and Electric Company (PG&E). PG&E is the local distribution company in northern and central California, delivering sales and transport gas to 3.2 million customers. I am responsible for our natural gas purchases and other matters relating to PG&E's arrangements with the interstate pipelines transporting or selling gas to us.

I appreciate the opportunity to be here today to assure this committee that the market demand for gas in PG&E's service area is strong and growing and that Southwest gas supplies have a major role in satisfying that gas demand, now and well into the future. It is a role not dictated by PG&E, nor by any other single party; rather, it is a role achieved by, and which depends on, Southwest suppliers themselves and their competitiveness in supplying the many buyers of gas in California -- not just PG&E.

As a utility regulated by the California Public Utilities Commission (CPUC), PG&E's rates are based on the amount of throughput on our system. Whether the throughput is sales or transport gas is a matter of economic indifference to PG&E. Alternative fuels -- especially fuel oil -- are highly competitive in our market area. If gas costs too much compared to alternate fuels, customers leave our pipeline empty. We need to keep the pipeline full and PG&E is willing and ready to buy Southwest gas at competitive costs or to transport it to other buyers in our market area.

A major portion of the PG&E system is operationally dependent on gas from the Southwest. These supplies are essential to meet our own gas requirements for the residential and small business customers who depend on us and to fuel our electric generating power plants. Southwest gas also has been, and can continue to be, a major supply source to meet the needs of the competitive noncore commercial and industrial markets, who can use choose among various gas suppliers or fuel oil.

Exhibit 1 illustrates the loads on PG&E by market sector during 1988. Approximately 32 percent was core residential and small commercial market load for which PG&E has a utility obligation to provide sales service. About 35 percent was PG&E's power plant load. (About 10 percent of PG&E's power plant load was met with fuel oil for economic or operational reasons.) The competitive noncore market comprised 33 percent of PG&E's load, including transport service for off-system customers in southern California. PG&E is no longer the sole supply option for the competitive noncore (large commercial and industrial) markets.

Exhibit 2 illustrates how the competitive noncore market demand for gas was met during 1988: 42 percent by transport gas and 58 percent by PG&E sales gas. Over 98 percent of the transport gas was delivered to PG&E by El Paso. Noncore customers in California have the option to choose to purchase from third-party suppliers (including New Mexico suppliers) and have gas transported for them. Obviously, they are exercising that right! And they are remaining on the system!

Competitive noncore commercial and industrial customers in PG&E's service area have a choice of supply options:

- One-year purchase commitments from PG&E's core supply portfolio (comprised primarily of long-term and some short-term gas),
- One-month purchase commitments from PG&E's noncore supply portfolio (comprised of short-term gas), or
- To purchase gas directly from third-party suppliers and have it transported and delivered by PG&E.
- In fact, a customer could choose some combination of all three supply services.

Exhibit 3 illustrates the mix of supplies purchased for resale by PG&E during 1988. In 1988, Southwest gas met 33 percent of PG&E's resale gas demand.

PG&E buys and sells gas primarily to fulfill our public utility obligation to provide reliable and affordable gas service to core (residential and small commercial) customers. Part of our strategy to accomplish this responsibility is to maintain the economies of scale in purchasing for a large, integrated core and competitive noncore market. Thus, we look to the market competitiveness of a prospective supplier, the reliability of the supply and the operating flexibility available from the supplier.

PG&E purchases Canadian gas from its subsidiary Pacific Gas Transmission Company (PGT). PGT purchases its gas from Alberta and Southern Gas Co. Ltd. (A&S), a subsidiary purchasing gas directly from 190 independent gas producers in Canada. California gas is purchased directly by PG&E from California producers.

The price and other purchase arrangements for California and Canadian gas is determined through the negotiations between PG&E, or its subsidiaries, and the individual producers. It is the competitive market price, operating flexibility and long-term reliability resulting from these negotiations that determines the role of California and Canadian gas in PG&E's gas supply portfolios -- and which has made PG&E's core supply portfolio so attractive to core and noncore customers. However, because of its flexibility, Canadian gas has had the brunt of meeting market demand swings. El Paso is much less flexible in

accommodating market swings, for example, because of its 48 hour notice rule in changing supply nominations.

Exhibit 4 compares gas costs by supply source for 1989. California gas continues to rank as PG&E's lowest cost supply. Canadian gas also continues to be lower cost than average Southwest supplies. The average price for Southwest gas masks the fact that some producers are being successful in competing with gas from other areas -- and are being rewarded by higher sales volumes. Commodity gas from El Paso continues to rank as the highest cost gas source. The non-competitiveness of El Paso commodity gas supply (which has its price set by FERC) has been a major cause of El Paso now being primarily a transport pipeline.

Exhibit 5 shows the changing role of U.S. southwest gas in PG&E's market for 1985-1989. To meet customer requirements and the competition from other suppliers, PG&E has steadily cut back on costly El Paso commodity gas. Long-term El Paso gas was replaced by spot and other short-term gas supplies to take advantage of their lower costs. Large noncore customers also began making their own arrangements with third-party suppliers.

PG&E is in the forefront of developing new supply arrangements for Southwest supplies:

- In 1985 we began our spot gas purchase program.
- In 1987-1988, we began entering into long-term and multi-month contracts with Southwest suppliers. We are currently buying 260 MMcf/d of one-year supplies.
- More recently, we have found suppliers willing to enter into longer-term, market-based multi-year contracts. We are buying about 400 MMcf/d under multi-year arrangements.

Our experience over this past winter, especially during the extreme cold snap of January-February, has given PG&E confidence that these longer-term arrangements can provide the reliability and price stability required by our customers.

As I've said above, it is in PG&E's interest that Southwest gas be a competitive and reliable source to PG&E and to transport customers throughout our market area:

- Under the CPUC's rate design, PG&E recovers only its gas purchase costs when selling core and noncore portfolio supplies. PG&E recovers its fixed costs and makes its earnings through the transportation of gas, whether PG&E or customer-owned gas. PG&E, like El Paso, is at risk for fixed cost recovery and earnings if throughput is less than that used by the CPUC to set rates. Thus, keeping the pipeline full is a critical objective for PG&E.

- Furthermore, to the extent that El Paso's capacity use increases, fixed costs per Mcf of throughput on it are decreased, and all Southwest gas suppliers and purchasers benefit.

Transport disruptions on the El Paso system have caused major public outcries in California. We continue to be concerned about stability of the El Paso system, and about the transportation and production area costs on El Paso which have hindered access to the California market by New Mexico producers.

Significant issues are being addressed at the FERC, but are not yet resolved. These include general rate case issues, gas inventory charges, conversion to firm transport, take-or-pay charges, undercollections in El Paso's Purchase Gas Account, and El Paso's transportation procedures. Resolution of these matters will go a long way towards enhancing the market opportunities for Southwest gas to PG&E and other California gas purchasers.

PG&E is working to create a more reliable and diverse transportation network to and into California for Southwest gas supplies -- again, whether PG&E purchase gas or transport gas.

- We are involved in settlement negotiations with El Paso to resolve rate and related gas supply and transport issues.
- PG&E has proposed an Integrated Capacity Priority (ICP) program, similar to a capacity brokering program, which will allow customers to enhance their transport reliability on El Paso, and improve the security of Southwest supplies.

Key features of the ICP are presented in Exhibit 6. We are not fixed on a made-in-California program. We are amenable to market-based modifications. We are quite willing to consider a capacity brokering program by El Paso. However, PG&E must retain its firm capacity right on El Paso to protect the supply reliability and economic interests of our core customers.

- PG&E has agreed to firm capacity on the proposed Colorado River Pipeline Project that will connect PG&E with the Transwestern pipeline system, thus increasing Southwest supply diversity and access to PG&E's system.
- In response to a demand for FERC regulated service by the incremental enhanced oil recovery (EOR) market in Kern County, California, PG&E has proposed a FERC-regulated expansion of its own southern system (Line 300). Such an expansion could increase deliveries from the Southwest or other regions. The CPUC approves of such an expansion provided that the capacity reverts to CPUC jurisdiction as EOR service ends.

- In the filing to the CPUC setting forth this proposal, PG&E stated a belief that Southwest supply sources will continue to be important sources of gas for California. We noted, for example, the growing prominence of San Juan Basin coal seam gas.

In response to a market demand for direct transportation access to California, PG&E has proposed to expand the PGT/PG&E system to transport Canadian gas to customers desiring such direct access. Precedent agreements for 600 MMcf/d have been signed with competitive noncore customers and suppliers. However, PGT and PG&E are not the only sponsors of proposals for additional pipeline capacity to California.

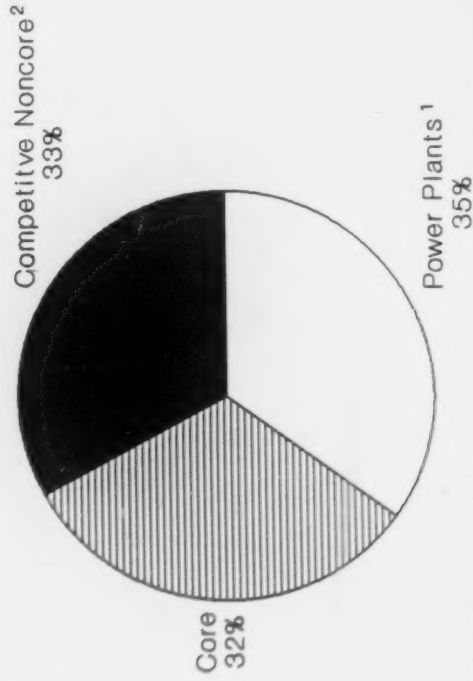
Additionally, the CPUC has begun an investigation into the need for new pipeline capacity into California. There are several implications for Southwest suppliers:

- Increased gas supply diversity in California can provide improved stability to the markets, improve the competitiveness of gas in the markets, and support significant market growth, for example, through the reduction in fuel oil use in southern California to achieve clean air objectives.
- Southwest suppliers will have the advantage of lower cost existing facilities to compete with new systems.
- In fact, large southern California utility customers on the PG&E and PGT Expansion Project have also contracted for enhanced reliability on their serving utility, which has also proposed expanding its connections with El Paso. El Paso has also proposed an expansion of its system to meet this demand.

In closing, I would like to reiterate that the market opportunity in California and in PG&E's service area for Southwest suppliers is growing and promising. It is in PG&E's own interest that Southwest suppliers have a strong market presence in our service area. However, resolution of the El Paso matters I've identified above is essential -- and hopefully will soon be achieved.

New Mexico gas is next door to us; this proximity offers a competitive advantage to both sellers and buyers. We have found suppliers increasingly willing to provide long-term reliable service to our customers. We are confident that such arrangements will grow -- not only with us, but with our transport customers as well. Let's work together to our mutual benefit by exercising that benefit.

# PG&E MARKET LOADS 1988



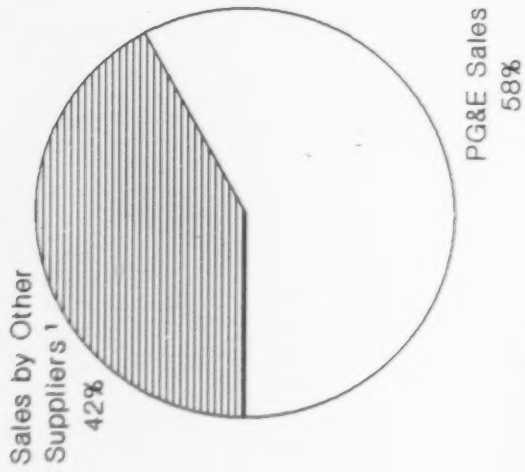
<sup>1</sup> Includes fuel demand met by fuel oil due to economic or operational reasons

<sup>2</sup> Includes transport or sales for off-system noncore customers

Total = 872 Bcf



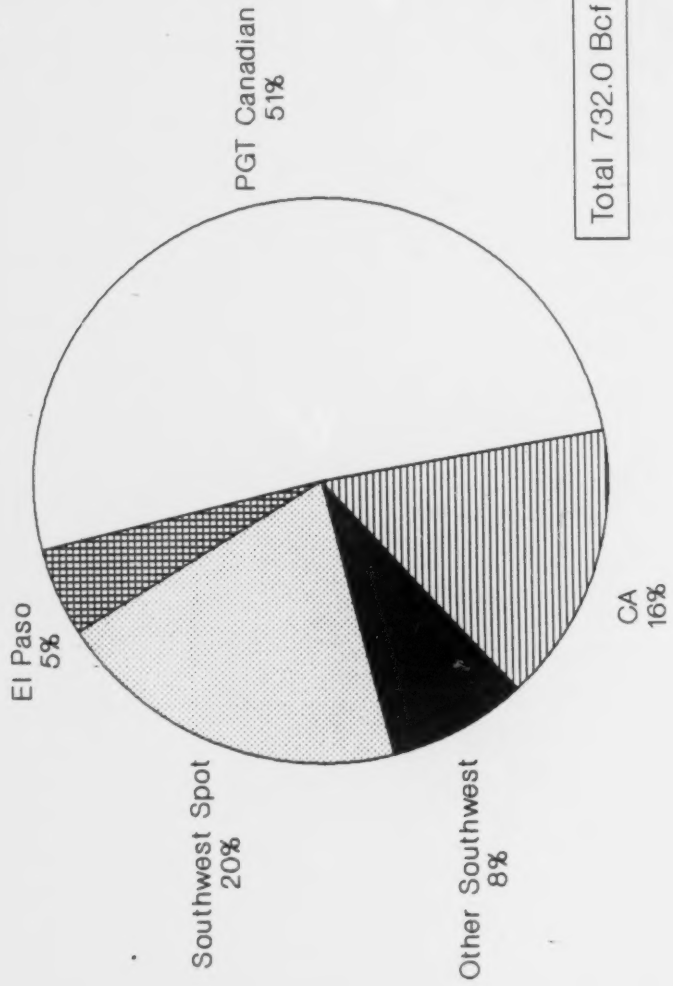
# COMPETITIVE NONCORE MARKET 1988



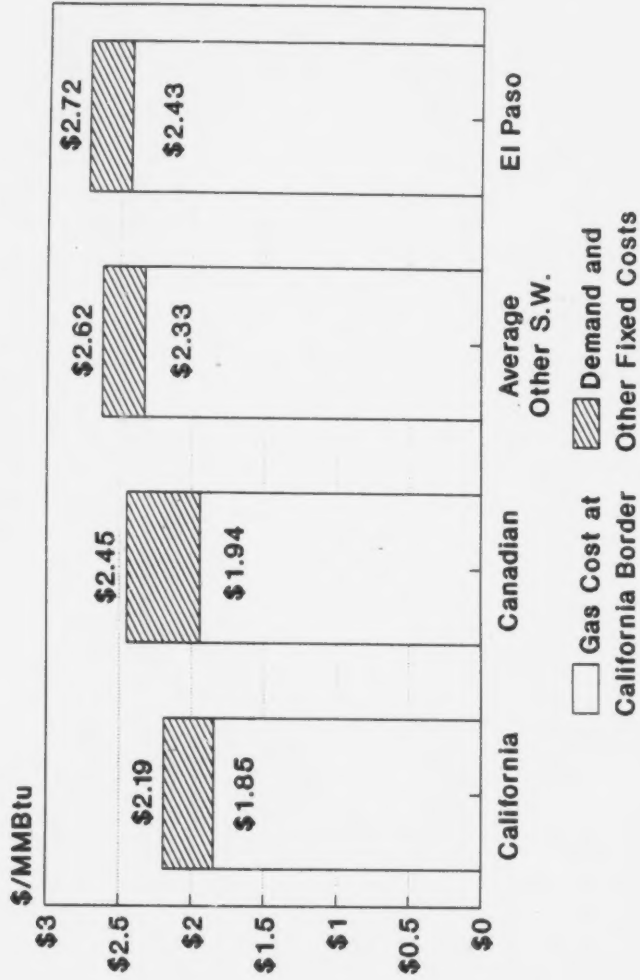
Total 283.9 Bcf

<sup>1</sup> Over 98 percent was transported across the El Paso system

# PG&E PURCHASE FOR RESALE 1988



# Estimated PG&E Gas Supply Costs --1989--



# U.S. Southwest Deliveries to PG&E: 1985-1989 Percent of Total

| Year                      | El Paso<br>Commodity | Spot <sup>1</sup><br>Gas | Other <sup>2</sup><br>Supplies | Customer-Owned<br>Transport <sup>3</sup> | Total<br>Bcf |
|---------------------------|----------------------|--------------------------|--------------------------------|------------------------------------------|--------------|
| 1985                      | 92                   | 4                        | 4                              | --                                       | 302.6        |
| 1986                      | 43                   | 33                       | 9                              | 15                                       | 217.5        |
| 1987                      | 19                   | 30                       | 12                             | 39                                       | 305.5        |
| 1988                      | 12                   | 42                       | 17                             | 29                                       | 342.6        |
| 1989-Partial <sup>4</sup> | 4                    | 32                       | 40                             | 24                                       | 162.6        |

1) Spot gas purchases began in August 1986.

2) Other supplies include Rocky Mountain gas delivered via displacement service, and gas delivered under multi-month and multi-year contracts.

3) The CPUC approved transport of customer-owned gas by PG&E in 1986

4) Partial year: January-May 1989.

### **ICP KEY FEATURES:**

- o Assigns access to capacity to noncore customers and independent shippers.
- o Uses capacity PG&E assigned at specific bottlenecks on El Paso system to define supply paths from gas source basins through to PG&E system.
- o Provides consistent priority for capacity across both interstate and LDC systems.
- o Uses an auction where participants express true willingness to pay to set market-clearing price.
- o Revenues and rates of interstate pipeline unaffected. Revenue returned to customers through lower LDC standard service rates.
- o Secondary market will allow for exchanges between auctions.

Senator BINGAMAN. Thank you very much for your testimony.

Let me ask you first, Sylvia, if you would comment. I think we have an interesting set of issues where Pacific Gas and Electric is interested in entering into longer term contracts. Some of the other witnesses indicated that there is a great reluctance on the part of producers to enter into any long-term contracts.

What could you tell me about the length of contracts that you are aware of being entered into at this time, and what the dynamics are that are driving that?

Ms. LITTLE. I had so many calls this month from marketers who want to buy or sign long-term contracts at least a year or two. These days that is long term. I agree with most of what Jerry McHugh said, that I am not willing to commit my gas for more than a month at a time because things change so rapidly. As a matter of fact, they changed within a week.

You commit your gas once a month, and a week later it could be 15, 20 cents higher, or it could be 15 or 20 cents lower. And there is no clue as to what it is going to be tomorrow or the next day or the day after. There is nothing reliable about the price.

If you want to commit your gas for a year, you would have to have a renegotiable price. That price would probably be set on some kind of an index. If we do go into gas futures, it might be set on that. As a general rule, over the last two years, the price has been set at what SoCal determines to be their average spot market price or somewhere in between. You never really know where that price comes from, and what it is going to do.

We thought that summer was upon us, and we were getting ready for lower gas prices every month; and all of a sudden a cold wave hit California, overnight. So the price jumped 20 to 25 cents within two days, and we had already signed the contracts for the lesser price. We felt really bad because we were losing out on all that money that we could have been making if we would have waited another week to make our contracts for that month. So there is no way. It is absolutely an incredible situation.

Senator BINGAMAN. If we continue to sell our gas 30 days at a time, is there a danger that long-term contracts will be entered by customers in California from other sources, and that the opportunity for us to sell into that market will be diminished or our share of that market will decline, or is the demand so great that it does not matter? Whenever we are ready to sell, there is a good market for it.

Ms. LITTLE. I think that depends a great deal on who is buying, totally on who is buying. The core customers are handled by the utilities. The utilities, the LDC's, are willing to pay more for their core customer supply because those core customers pay a lot of money for gas. The industrials are the ones that complain very loudly about what they are paying for natural gas today is ridiculously high, and that is where our industry has gone to the industrial consumer in California, the largest plants, the people that use gas for commercial enterprises; not the homes, schools or the office buildings. It is the industrial users that are driving the prices down. And if they can get cheaper gas from Canada or wherever, that is what they are going to do. It is just not an easy question. There is so many different sides to it. There is no answer.



We are not doing the consumers a favor, though, by letting gas seek its own level, so to speak. Because they are not going to like what will happen to them if, indeed, the price of gas goes up at the wellhead, and we have all of these middlemen lined up. Actually the middlemen are the ones that are making the money; not the ones that should be drilling the wells. I do not know how you propose to solve that problem, but I know who is going to catch it in the end.

Senator BINGAMAN. Mr. Owen, let me ask you if this nonconventional fuel tax credit expires as planned, what will happen to drilling activity by Meridian for coal seam methane gas?

Mr. OWEN. We anticipate to be very active through the end of 1990.

Senator BINGAMAN. That is when the credit expires.

Mr. OWEN. That is when the current credit expires. If the credit expires at the end of 1990, we will see a drastic reduction in drilling, because, as I have indicated in my testimony, the tax credit incentive has played an integral part of Meridian's strategy toward the development of coal seam gas reserves. We appreciate your support for those type of incentives for the producers. But if the gas credit expires at the end of 1990, drilling in the basin will drastically be reduced from the levels that we see today; not only by Meridian but by other producers in the basin as well.

Senator BINGAMAN. Mr. Gibson, Pacific Gas and Electric's subsidiary, PGT, has this planned expansion of about 600 million cubic feet per day. Could you explain that a little bit? Give me some of the details on that; what percent of that is Canadian gas and just where that puts us or what relevance that has to us here in New Mexico?

Mr. GIBSON. Yes, Senator. I think it is an example of the growing demand for natural gas and natural gas services that we see in southern California. I have to back up a little bit and give you just about 30 seconds of background.

Pacific Gas and Electric has owned and operated through a subsidiary for about 26 years a pipeline that stretches from Alberta, Canada, to northern California. It was built for the purpose of bringing in additional gas supplies into northern California, and was operated for that purpose over that period of time.

Back about two or three years ago we started getting a variety of solicitations from large and responsible gas sellers from Canada, producers in Canada and others saying, "Please expand the PGT/PG&E pipeline system," so as to bring additional quantities of gas or to allow them to have transported additional quantities of gas on a firm basis out of Canada. We indicated that was not really our business. That we are in the business of serving our own loads in northern and central California, but those questions and solicitations continued and increased.

As a matter of fact, they finally got to the point where there were a number of other pipelines that were proposed to do the same thing. And we arrived very quickly at the conclusion that if somebody was going to do it, it might as well be us. We have the cheapest and most direct pipeline route from Canada into California.

So we proposed in and are proposing and have before the Federal Energy Regulatory Commission and the PUC a proposal to expand the capacity of the existing pipeline to carry about 600 million cubic feet a day of gas that others would buy and sell over this transportation system into the southern California utility market. Parenthetically there are also about 150 million cubic feet of transport customers up in the Pacific Northwest who have signed up for that supply. We had an open season on that pipeline proposal and we are heavily oversubscribed. There is a lot of demand to bring gas out of Canada into California.

I might say that that is not going to change the character of the overall gas supply picture in the United States very much, because, as Sylvia said, Canadian gas does not amount to as much as 10 percent of the total U.S. gas consumption, and it is not forecast to come up to anything more than that. I think it is probably more like 6 or 7 percent total U.S. gas consumption.

But I know in northern California it has been very important. It has been very reliable, and in the last few years after they went through their process of raising their prices and lowering them in response to the market, it has become very competitive. That is what we are proposing, and what it implies for New Mexico is not, I think, a reduction in the availability of market for New Mexico.

As I believe an earlier speaker said, Mr. Eck of Amoco, we are going to be needing all of the gas we can get our hands on as a nation here in the next few years. We are going to need all the New Mexico gas that can be produced. We are going to be needing all the gas that Canada will let loose and allow us to bring into the United States. We are going to wish we had more.

Senator BINGAMAN. Let me ask you, is there a way to compare the cost of transporting gas from Canada to the California border with transporting New Mexico gas to the California border?

Mr. GIBSON. Yes, there is.

Senator BINGAMAN. Could you do that comparison? How do we stand? Are we at a disadvantage by virtue of the transport cost?

Mr. GIBSON. I do not believe so. On an average-cost basis, let me give you some figures here, the price at the border, the Canadian border adjusted for all of the various things that you have to adjust it for, such as the wet to dry adjustment, et cetera, under our contract we are paying \$1.90 at the border for it. And when it comes into California on a full, all-in, average-cost basis \$2.45 delivered. We are paying for gas cost at the California border \$2.33 on the average for Southwest supplies to get the gas to the California border. That varies, what, in terms of prices into the El Paso system. I am referring to Mr. Satrap here, because he probably can give me some figures on inlet point into the El Paso system.

Mr. SATRAP. There is about a 10-cent differential coming west from the Anadarko Basin, the Permian and through the San Juan Basin that producers are selling gas into the mainline system based on the tariff transportation rates on the El Paso system. So the purchases of that PG&E are into the El Paso system, at a delivery point within a production base, and then moved through the El Paso system to achieve the average that Dan has given you at the California border.

Senator BINGAMAN. I am not sure I understand. You state there is a 10-cent differential per Mcf.

Mr. SATRAP. Yes, sir.

Senator BINGAMAN. Could you elaborate on that? You are saying that the price when the gas comes into the El Paso system is 10 cents per Mcf less than the cost coming into the line coming out of Canada?

Mr. SATRAP. I was trying to compare the three production basins from which PG&E purchases gas out of the Southwest. In our purchase practices, we purchase gas on a cost test at the California border. Since it is more expensive to move gas out of the Anadarko Basin across the El Paso system under its tariffs than it is out of the San Juan Basin, PG&E can afford to pay a greater price to a San Juan producer than it can to an Anadarko producer to achieve the same delivery costs at the California border.

Senator BINGAMAN. That is where the 10 cents per Mcf differential comes in. It is the differential between what you are able to pay in the San Juan Basin versus what you are able to pay for gas out of the Anadarko Basin.

Mr. SATRAP. Yes, sir, that is correct. There is an economy in the distance, transportation across the El Paso system and the proximity of the San Juan production to the California border.

Senator BINGAMAN. Could you cite any factors or any similar figures with regard to what you can pay on the Canadian-originated gas?

Mr. SATRAP. No, sir. That gas is aggregated for us and delivered to us at the border, at the Canadian border, to PGT for transport to PG&E at the Oregon/California border. It is a aggregated contract price that is a composite of many contracts with ANS, the affiliate Dan mentioned earlier, under netback contracts. There is a whole variety of contracts that flow into that border price.

Senator BINGAMAN. Let me ask you about this arrangement that PG&E has with WyCal. Could you explain that? What that involves and how that impacts on the sale of San Juan gas into the California market?

Mr. GIBSON. Yes, Senator. A few months ago after having gone through the long and bruising hearings about the EOR pipelines in California, the Public Utility Commission of the States of the California I think took another look at what the situation was. I think they began to realize the inevitability that there would be one or more pipelines built into California to serve the EOR market, and they would be FERC-regulated pipelines.

They issued a policy statement which indicated that they were encouraging now California utilities to find ways of allowing this to happen without further damaging the interest of California core customers, and that they were willing to allow California utilities, such as ourselves, now to consider the potential for settling the case with the various EOR pipeline proposals.

Therefore, we and Southern California Gas Company began immediately meeting with the various pipeline proponents in an attempt to reach settlement. We, PG&E, met with Mojave. We met with Kern River. We met with WyCal. We offered all three the opportunity, as I have indicated earlier in my direct testimony here, to utilize our pipelines within the State of California expanded as

necessary to provide firm transport service for the EOR market; and that those facilities expanded as necessary could be subject to FERC jurisdiction for the period of the EOR service.

What happened was that, quite frankly, the WyCal people came out of the blocks first in these negotiations, and we entered into an agreement with them to allow that sort of thing to happen. As an adjunct of the overall agreement, we took the option to take 50 million cubic feet a day or more of capacity on WyCal should we choose to do so sometime in the future for the purposes of getting additional diversity of our gas supply to get access to the Rocky Mountains. We also said that in that case we might want to consider taking an equity position. That is the nature of the WyCal project. We continue to negotiate or be willing to negotiate with the other two proposals, and we are I think quite a distance yet from the final resolution of those EOR disputes.

The one step that needs to be taken that is very vital now that the EOR pipelines have expanded their ambition to serve not only EOR but also the California utilities. The Public Utilities Commission of the State of California is going to have to approve the agreements between the utilities and the EOR pipelines for the service by those pipelines to the utilities before the pipelines will really have something to go forward with. That has not been done yet, and I think the PUC is waiting to see what else develops.

We have two major contending projects now to bring additional gas into California. That is PGT expansion and the new access between Mojave and Kern River. WyCal is sitting out there with some customers, and they may come up and also be a force. So we still have to see the finals in this pipeline competition.

Senator BINGAMAN. Let me ask the last question to Sylvia here. What constructive suggestions do you have for what we ought to do in the Congress the rest of this session?

Ms. LITTLE. Let me see now. [Laughter.]

I have a lot of suggestions. One of the things I think will have to be addressed, if we intend for the independent producers to survive, we need to get their gas to market. And that seems to be the biggest concern in New Mexico right now, because we are losing state revenue, Federal revenue, independent's revenue. There are a lot of people that do not know or understand how to market their gas. How to find someone; to pick up the phone and say, "Hey, would you buy my gas?" To me that would be the first and most important thing to get those producers to open their wells. And the other thing would be to get a move on our gas allowable production.

I think those two things could make a difference in our state revenues, and I know that is one of the things that is most important right now. The state is really feeling the pinch and so am I. It would help me as well as it would help them.

Another thing we might look at is BLM has finally decided that they do not have to enforce rules all the way across the country, the same rules. They have decided they can go region by region and look at what is necessary. I wish FERC could do the same thing. Instead of unbundling rates totally all the way through open access, I wish they could look at each individual area, like ours here in the San Juan Basin. When FERC insisted that our rates be



unbundled, we went from paying 5 percent processing and transportation charge to as much as 33 percent.

If I sell my gas at \$1.50 at the mainline, it takes sometimes 50 cents to get through the processing plant. One well I have it costs 33 percent of that production before I can even sell the gas. This is because of the unbundled rates. It goes anywhere from 15 to 18 percent depending on the Btu content. I do not know if you remember, but there was a time when gas producers were rewarded for the higher Btu content of their gas. And now it is just the opposite. It costs us more money for the plant to take out those liquid Btu than we get back for what they sell it for. We have a large processing rate in the San Juan Basin.

I think this is why he was saying it was cheaper, even though we have the higher processing rate, to get to the mainline. They would have to pay more for San Juan Basin gas than they do for Anadarko, except we are closer to their border and that sort of evens it out a little bit.

Those are the areas of most concern to the independents. If we really and truly want to keep this from being a monopolistic industry. If we really want to keep the little guy in it and the smaller independents particularly, and that is my concern.

Senator BINGAMAN. Thank you very much.

Let me ask one other question that I was planning to ask and forgot about, Mr. Gibson. This on-line electronic bulletin board PG&E has going now, if I have a PC and a modem, and I am sitting here in Farmington and I want to plug into that, what do I do?

Mr. SATRAP. We would encourage you to give us one of your producer cards, which we would then mail to you the description of the program and its operation. Gas Match, as Dan earlier pointed out, is the electronic purchasing mechanism that PG&E has recently developed to attempt to deal with producers of smaller volumes. We currently are willing to buy down to 5 million a day, and are looking to purchase to 3 million a day.

As you pointed out, Senator, you access through your modem, your PC, to PG&E system. You will see what the demands are for the day. You will see if we are purchasing spot gas on a daily swing basis. If we have needs for the rest of the month on base load or whatever our market needs are. You have a new well the comes on mid-month, you do not have to wait until the next month to sell it to an aggregator or a marketer.

We are attempting to facilitate the purchase of gas from smaller producers and through Gas Match do it on an immediate, real time basis to give any producer the opportunity to see what our dispatch requirements are for that given day, and any other comments that we put in the bulletin board on what we plan the market to be in the immediate future.

Senator BINGAMAN. Is this unique to PG&E, or are there other purchasers of gas in California that have similar electronic bulletin boards?

Mr. SATRAP. Senator, we developed this for PG&E. We trade-marked it, and we believe we are the only LDC or large market in the nation that is doing this today.

Senator BINGAMAN. That is very interesting. Thank you very much.

I think I will stop with the questions there. I think we have had very interesting testimony, and I want to just thank all the witnesses. It is clear there are a lot of issues here that remain unresolved, and I think that is the nature of the business we are looking into.

We obviously need a reasonable price in order to provide the economic incentives necessary to continue the drilling and exploration activities that we are going to need. I hope we can be successful in Congress in providing some of the incentives that are needed to bring that price along. The production, pipeline capacity, rate reform are issues we are going to be looking at in the Congress.

Of course, we want to continue to keep track of issues that relate to the competitiveness of San Juan Basin gas production and New Mexico gas in general in the California market.

I want to particularly thank Dr. Jim Henderson and the San Juan County College and the staff for the great assistance in making the arrangements for the hearing. Don Santa who is here with me today from the Senate Energy Committee. He has been extremely helpful in preparing for this hearing; and, of course, he has been a key architect in the decontrol work that was just gone on in the Congress and great help to me and our Chairman, Senator Johnston. Mitch Foushee, who is on my staff, and as many of you know, of course, has been a key in bringing this hearing about. I think it has been useful.

We will adjourn the hearing at this point. We may have some follow-up questions that we would submit to some of the witnesses for their response that we can put in the record. We will be in touch with you in the next week or so if we do. We thank you all very much.

[Whereupon, at 5:10 p.m. the hearing was adjourned.]



## APPENDIXES

### APPENDIX I

#### Responses to Additional Questions

Pacific Gas and Electric Company

245 Market Street  
San Francisco, CA 94106  
415/973-2058

Daniel E. Gibson  
Vice President  
Fuel Resources

July 28, 1989



Honorable Jeff Bingaman  
Chairman, Subcommittee on Mineral  
Resources Development and Production  
Committee on Energy and Natural Resources  
Washington, DC 20510-6150

Dear Senator Bingaman:

Thank you for the opportunity to address your follow-up questions concerning Canadian and domestic producer competition in the California natural gas markets.

Specific responses to the two questions are attached. However, I want to reiterate here the central message I carried to New Mexico's producers at the Subcommittee hearing on June 29, 1989: PG&E wants New Mexico gas now and in the future and PG&E is ready and willing to buy it at competitive prices or to carry it for the producer to other buyers in our market area. We aim to maintain a diverse portfolio of gas supplies including gas under long-term contract commitments. These, we believe, not only insure a reliable supply for our customers but also give the producer a basis for going out and drilling for new supplies. And, as you are aware, Senator, this country must see a substantial upswing in drilling if this country is to avoid a shortage of gas in the next few years.

Producers - whether domestic or Canadian - have obtained market share in California because they have been willing to offer the mix of price competitiveness, flexibility and commitment of supplies that the market requires. We believe that the message is being heard and believed. We have been successful over the last year in reaching new market-responsive arrangements, including some creative long-term arrangements, with domestic Southwest suppliers. As the issues outstanding on El Paso are resolved, we are hopeful that more domestic suppliers can see their way clear to put the message into practice and enter into additional market competitive arrangements with PG&E, and other buyers in our market area.

Honorable Jeff Bingaman  
July 28, 1989  
Page 2

If there are additional questions, please do not hesitate to send them. It is PG&E's interest that we address the concerns of domestic producers and work with them to reach mutually agreeable market competitive arrangements.



Sincerely,

A handwritten signature in dark ink, appearing to be "D. E. G.", followed by a horizontal line.

DEG:csb

Attachment

## ATTACHMENT 1

Question 1:

In your opinion, why have Canadian natural gas producers been so successful in competing for a share of the California natural gas market?

Response To Question 1:

Canadian gas supply deliveries to PG&E have been extremely reliable over the last 28 years. In sharp contrast to our experiences with deliveries of gas over domestic pipelines, Canadian gas deliveries to PG&E have never been curtailed by governmental edict. Their supply security has been unmatched by domestic pipelines. Moreover, after the Canadian government stepped out of the price regulations arena, allowing prices to be set by buyer-seller negotiations, Canadian producers have been willing to negotiate flexible and competitive pricing arrangements which have allowed Canadian producers to retain their competitive position in the market vis-a-vis other gas suppliers and alternative fuels.

The combination of reliable long-term supply and pricing flexibility is the key attraction of Canadian gas to PG&E, our core and noncore sales customers, and to other gas purchasers in California.

## ATTACHMENT 1

Question 2:

What can domestic natural gas producers learn from their Canadian counterparts in terms of marketing natural gas in competitive markets?

Response to Question 2:

A central element of Canadian producers' success in maintaining a substantial share of the gas market in northern and central California has been the long-term reliable contractual commitment of their supplies to that market. The Canadian contracts that have evolved over the past few years provide great flexibility and price responsiveness coupled with that long-term commitment.

We hear some U.S. producers express a reluctance to enter long-term contracts, fearing that such commitments would somehow prevent them from receiving higher prices as overall energy market prices rise in coming years. However, while we as buyers are interested in price stability, especially on an annual basis, we do not expect producers to lock in to a price which cannot change over the term of a multi-year agreement. Thus, our Canadian arrangements, as well as long-term contracts with Southwest suppliers, provide opportunities for price redetermination on a regular basis (e.g. annually) based on buyer-seller renegotiations. Such contracts provide the purchaser with reasonable price stability, and at the same time assure the producer that the prices will not fall out of line with the market as time goes by.

Most importantly, however, such long-term mutual commitments between buyer and seller form the basis for new exploration and drilling investments by producers, and meet a critical national need as this country moves inexorably toward another shortage of gas.

The recent history of the gas business is littered with the expensive remains of contracts which were broken because they were too inflexible to continue to provide commercial equity to the buyer or the seller. Domestic producers might consider the Canadian producers' experience which suggests that adoption of flexible, competitive, market responsive long-term sales contracts is a far better prescription for a healthy production industry than is avoidance of any long-term contracts with the resulting hand-to-mouth existence offered by the spot market.



bcc: Jerry R. McLeod  
John E. Koehn  
Stephen P. Reynolds  
Thomas M. Hill  
Gene Satrap  
Robert D. Testa  
Daniel F. Thomas/Thomas J. Wander

## QUESTIONS FOR

JEROME P. MCHUGH, JR.

INDEPENDENT PETROLEUM ASSOCIATION OF NEW MEXICO

6

1. At the Farmington hearing, you testified as to the adverse impact that rates for natural gas transportation, processing and gathering have upon wellhead netback prices received by New Mexico producers.
  - o Would you please elaborate on this testimony and provide specific examples?
  - o Compared to natural gas producers in other regions, are New Mexico producers at a competitive disadvantage, due to the level of such rates charged by the pipelines on which New Mexico producers must transport their gas to markets?
2. At the hearing you testified that most of your gas purchase contracts were 30 days in duration and in general were skeptical about any return to longer term supply arrangements in the near future.
  - o Can 30-day contracts ever provide the requisite cash flow and financial certainty that would appear to be necessary to support increased exploration and production activity?



- o What would it take in terms of price and contract terms to get you to enter a long-term contract for the sale of your production, say a contract for a year?
3. What can be done to enhance the competitiveness of independent natural gas producers in New Mexico?
- o What should the producers be doing themselves?
  - o What suggestions do you have as to what the Federal Energy Regulatory Commission should be doing?
  - o Is there anything that the United States Congress can do?

# McHUGH

Jerome P. McHugh & Associates  
 Operating Affiliate: Nassau Resources, Inc.  
 650 South Cherry, Suite 1225  
 Denver, Colorado 80222  
 (303) 321-2111 FAX (303) 321-1563

July 24, 1989

United States Senate  
 Committee on Energy & Natural Resources  
 Washington, D.C. 20510-6150  
 Attn: Senator Jeff Bingaman, Subcommittee on Mineral Resources  
 Development and Production

RE: Response to request for additional information relating  
 to the Farmington, New Mexico hearing

Dear Senator Bingaman:

Per your request of July 12, listed below is the additional  
 information pertaining to the competitiveness of New Mexico gas  
 supplies:

1. Because El Paso Natural Gas has unbundled their gathering and  
 transportation service rates, the net effect is that San Juan  
 Basin producers, at least in my company's case, have paid  
 exorbitantly high gathering rates. Specifically we pay  
 .2075/MMBtu for field transportation, .143/MMBtu for product  
 extraction, .0199/MMBtu for dehydration. We also pay 2.3% by  
 volume for field transportation fuel, 5.5% for plant fuel and an  
 average of 22% by volume for liquid shrinkage. While we do get a  
 credit against transportation costs for the sale of liquid  
 products such as propane, butane, etc. the credit, to date, has  
 not offset the cost associated with extracting these products.  
 These rates are average for a traditional gas well connected to  
 the El Paso system. A well located in the Permian Basin of West  
 Texas is usually associated with oil production and can command a  
 relatively lower price. Permian Basin gas also has better access  
 to other markets because of access to other pipelines serving  
 alternative markets.

Specific case:

I have attempted to sell gas to the Giant Refinery in  
 Ciniza, New Mexico, approximately 75 miles from actual production  
 in the San Juan Basin. As a San Juan producer, with an El Paso  
 main line delivery point into the refinery, we should be able to  
 make a pretty good deal with Giant. However, the San Juan Basin  
 tailgate cost is 5 to 8 cents higher than W. Texas or Anadarko  
 mainline gas because the gas costs so much more to gather due to  
 EPNG's unbundled rates. We would have to reduce our price at the  
 mainline, and consequently the wellhead, in order to compete with  
 Permian Basin and Anadarko Basin supplies. As of this writing,  
 Giant has entered into a long term deal with Meridian Oil, a  
 major producer in San Juan. Because Meridian has large volumes  
 of gas in the Anadarko and Permian Basins, they have the

Senator Bingaman  
 July 24, 1989  
 Page Two

flexibility of supplies in order to serve this customer that a small San Juan independent does not.

Eighty percent of New Mexico gas production is delivered to California. Compared to natural gas producers in other regions, the San Juan producers are held captive on a direct haul basis. Currently, gathering discounts for backhauls to east of California markets are available on El Paso. However, even with the discounts, these markets do not provide better net backs to New Mexico producers. I have polled some other members of the IPA New Mexico for a comparison of prices which are listed below:

|                                     |          |
|-------------------------------------|----------|
| San Juan Basin EPNG Mainline Price  | = \$1.64 |
| San Juan Basin into EPNG Netback    | = \$1.21 |
| Permian Basin Mainline Price        | = \$1.60 |
| Permian Basin into EPNG Netback     | = \$1.30 |
| Permian Basin into NGPL Netback     | = \$1.55 |
| Permian Basin into EPNG Waha        |          |
| westbound via Gas Co. of New Mexico | = \$1.47 |

2. As I mentioned in my oral testimony, we are as nervous now entering into long term sales contracts as we were three (3) years ago when we began releasing gas from long term contracts. Consumer prices have risen steadily over the past eight (8) years while wellhead netbacks have decreased by 75% over the same period. I have heard that the majority of contracts (70%) across the country are no more than 30 days. I think that there is a genuine fear among producers that a long term contract will not provide flexibility and will lock us into unfavorable terms. Further, indexed price incentives in an "up" market would serve to benefit the LDC's, specifically in our case. I personally am fearful of long term contracts because of the situation which is evolving in the California marketplace.

There is a virtual monopsonistic situation re-entering the gas marketplace just as we are leaving that situation. California LDC's are committed to procuring long term supplies of gas. They are in the midst of procuring large quantities of long term supplies through aggregators, marketers or their own procurement departments. They are offering contracts for terms of one (1) year, 1 to 5 years and 10 years in the hope of continuing their merchant function as a distributor of gas. According to some of our own California end users, the LDC's have not renegotiated transportation contracts with them which would give them the possibility of dealing competitively with the LDC in buying supplies directly from a producer. I would suggest that your committee talk directly with some of these industrial

Senator Bingaman  
 July 24, 1989  
 Page Three.

end users to get a better understanding of the "dirty pool" game the LDC's are playing.

I believe the LDC's are trying to hoard gas supplies for their own accounts. I base this belief on the following:

- a. There is a big push for long term contracts indexed to market sensitive pricing scenarios.
- b. The LDC's are not willing to allocate their capacity to end users on interstate lines in lieu of fair cost of service transportation to the burner tip from the California Border.
- c. Core-elect programs in effect discourage end users from direct producer - end user deals. Core-elect is merely another mechanism to hoard gas supplies in an effort to maintain the merchant function.
- d. The role of new high cost pipelines into California discourage adequate cost allocations of transportation services on El Paso and Transwestern to the border.
- e. The increased demand for natural gas in California over the next decade gives the LDC's further incentive to lock up dwindling supplies and firm pipeline capacity now, in order to be "in control" when their fuel switching customers are forced to burn natural gas for environmental reasons.

I think that the reasons for not signing a long term contract right now goes deeper than adequate prices and terms. For the reasons mentioned above, I would be wary of entering into a long term arrangement. I will continue to play the 30-day spot game where I'll sell 100% of my gas at a market price. I know that I can do that. I will not succumb to the California LDC gas hoarders game with my gas production.

There is also a certain fear of re-regulating the gas business when the bubble bursts, deliverability drops, supplies languish, demand climbs and some folks freeze to death because their LDC could not furnish them gas. You know as well as I do, that some liberal-minded "quick fix" type of Congressman or Senator will want to regulate this business again in the event these things occur. History will show how regulation has adversely affected this business in the past. If its not re-regulation, it will be burner tip regulation of prices where producers will receive very low netbacks.

I don't believe we would even consider entering into a long term contract unless we were offered a premium price and provisions for firm takes of at least 80% with release provisions

Senator Bingaman  
July 24, 1989  
Page Four

for excess production.

3. More producers need to get involved in the regulatory process. This requires active participation in FERC matters and pipeline rate cases. Educating the lawmakers on the economics of the producing side of the business is also essential for effectuating long term changes. Further, producers must collectively push for rate reform in order to get things on a more equal basis economically by region.

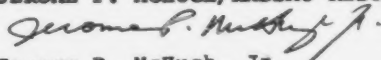
While the FERC has made tremendous strides in restructuring the gas industry, I feel that they have a much firmer understanding of the pipeline business than they do of the producing business. The FERC could appoint certain "study groups" for each of the gas producing areas in the country. These groups could then spend time with a select group of producers in order to understand specific problems affecting the economics of gas production in specific areas of the country.

I believe that by virtue of my written and oral testimony, the United States Congress is taking a step in the right direction to understanding the myriad of challenges that are facing energy producers. Like my suggestion for the FERC, senators and congressman from the major gas producing states in the country need to plan and participate in similar evaluations in order to make them more responsive to the industry as a whole.

I applaud your efforts in researching the case of New Mexico gas and appreciate the opportunity to express my views and opinions on the challenges facing New Mexico producers. If you have any other questions or if you require more specific information, please don't hesitate to contact me.

Very truly yours,

JEROME P. MCHUGH/HASSAU RESOURCES, INC.



Jerome P. McHugh, Jr.  
President

**McHUGH**

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July 28, 1989

United States Senate  
Committee on Energy & Natural Resources  
Washington, D.C. 20510-6150  
Attn: Mr. Mitch Poushee

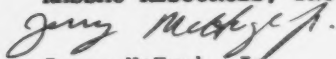
Dear Mr. Poushee:

Enclosed please find additional information relating to data sent to Senator Bingaman on 7/24/89 on the competitiveness of New Mexico gas supplies. If possible, I would like to include this as an addendum to that document.

If you have any questions about this, please give me a call at (303) 321-2111. Thank you for your cooperation in this matter.

Very truly yours,

**NASSAU RESOURCES, INC.**



Jerry McHugh, Jr.  
President



JUL 25 '89 08:59 HARVEY E. YATES COMPANY

P.1

**HEYCO**

PETROLEUM PRODUCERS

**HARVEY E. YATES COMPANY**

P.O. BOX 1822

ONE SURVEY CENTRE

828 / 822-8807

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ROSEWELL, NEW MEXICO 88202-1822

July 26, 1989

Jerry McHugh  
650 South Cherry  
Suite 1225  
Denver, CO 80222

RE: Senator Bingham  
Subcommittee on Mineral  
Resources Development and  
Production

Dear Jerry,

This will record our thoughts relating to reasons that New Mexico Gas has difficulty competing with gas from other states. My comments are confined to the situation as we view it in southeastern New Mexico.

First, our price is not competitive because it requires \$.40 to \$.44 to deliver gas to the California border on the El Paso Natural Gas system. We have a mainline charge, we have a gathering charge, a five percent shrink due to line loss and compression, and the take-or-pay fee. About \$.40 to carry gas across two states to the California border where recent prices have been in the \$1.50 to \$1.80 range. This results in a net back to the producer of something less than \$1.50. A general rule of thumb in the industry is that it takes \$1.50 to discover and produce gas. Gas is then purchased by the California Utilities at \$1.60 to \$1.80 and delivered to the burner-tip customer at \$9 to \$11.

Market competitiveness is not just a function of price. If a New Mexico producer is willing to sell his gas on the spot-market, at a loss, or breakeven point, he may still not be able to deliver that gas into a pipeline. Our experience has been that many times the line pressures are high enough to restrict or prohibit gas flow from the well. A number of reasons are offered by the pipelines for these mechanical difficulties; however, the fact remains that during the years preceding 1980 gas from these same wells flowed into these same pipelines 365 days a year, year after year.

If we are willing to accept spot-market price and can overcome mechanical difficulties, New Mexico producers may still not be able to deliver their gas. Often, such as during this past June,

JUL 26 '89 09:00 HARVEY E. YATES COMPANY

P.2

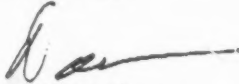
Page 2

the California Utilities elect to use their space on the pipeline and take core gas or long-term gas only. So in many cases, the broker or aggregator to whom the producer has sold gas is unable to move the product. Finally, if a producer is able to overcome all of the obstacles and actually sell gas, he may find himself unable to get paid. Gas which he thought was being sold may mysteriously, for some technical reason, disappear into the infamous "YY" or "U" account. If this should occur, then this gas remains in limbo often for several months, before the computer can untangle the problem and release payment.

Congress can assist New Mexico producers and make New Mexico gas more competitive by assuring that FERC gets on with unbundling and rate reform. FERC needs to be sure that producers truly have access to the pipeline and prohibit other entities from tying up space that is unused. Producers in southeastern New Mexico in general, and our company in particular, have been willing to accept an artificially low spot-market price but still could not deliver gas due to access problems. The congress needs to push forward with gas decontrol and to provide tax incentives which would allow producers to find gas more cheaply and therefore sell gas at a lower price. Finally, a peripheral issue but one related to the cost of finding gas is that the Congress should insure that the EPA, BLM, USFS, and other federal regulatory agencies stop heaping useless and onerous regulations upon the industry. In fact we badly need to have many of the current regulations rescinded.

I did not quite get this on one page but feel free to edit the material as you see fit.

Sincerely,



Dan Girard  
Contract Administrator

DG/wbn  
mchugh

**El Paso**  
Natural Gas Company

P. O. BOX 1492  
EL PASO, TEXAS 79978  
PHONE: 915-541-3123

JOHN M. CRAIG SENIOR VICE PRESIDENT  
MARKETING

July 24, 1989

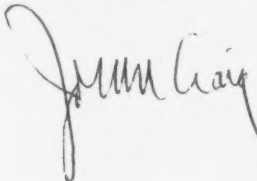
Senator Jeff Bingaman  
Chairman Subcommittee on Mineral  
Resource Development and Production  
United States Senate  
Committee on Energy and Natural Resources  
Washington, DC 20510-6150

Dear Senator Bingaman:

Enclosed are responses to your July 12, 1989 requests related to testimony given in Farmington, New Mexico on the competitiveness of New Mexico natural gas production.

Should there be additional questions, please let me know.

Sincerely,



:eq  
Enclosure

El Paso Natural Gas Company

Responses to Senator Bingaman  
 Subcommittee on Mineral Resources Development and Production  
Dated 12 July, 1989

Request No. 1: Please tell me the rates that El Paso charges for gathering and processing and how these rates are determined.

Response: The current tariff rates for gathering and processing that became effective July 1, 1988, subject to refund, in Docket No. RP88-44 are outlined in the following table:

|                               | <u>San Juan</u> | <u>Permian</u> | <u>Anadarko</u> | <u>Offshore</u> |
|-------------------------------|-----------------|----------------|-----------------|-----------------|
| <u>Field Transmission</u>     | \$ .2075        | \$ .2075       | \$ .2075        | \$ .1620        |
| <u>Products Extraction 1/</u> | \$ .1430        | \$ .1321       | \$ .1450        | N/A             |
| <u>Purification</u>           | \$ .1500        | \$ .0900       | \$ .0350        | N/A             |
| <u>Dehydration</u>            | \$ .0199        | \$ .0500       | \$ .0550        | N/A             |

(1/ This rate is based on costs excluding liquid revenues credited. In those cases where the shipper requests El Paso to retain the liquids in lieu of cash payment for processing service, the related processing charge will be offset by the revenues from such liquids up to an amount equal to such processing charge.)

The derivation of these rates utilizes the Commission's Modified Fixed-Variable ("MFV") rate design methodology, and the subsequent rates are based on "fully allocated" costs (i.e., inclusive of both demand and commodity classified costs). Under MFV, the costs of service related to products extraction, purification and dehydration have been classified as commodity costs. The products extraction, purification and dehydration rates displayed above are derived by dividing the costs for each service by the associated plant inlet volumes forecast for the rate period. Further, the field transmission fixed cost of service, excluding equity return and related income taxes, has been classified as demand with the remainder of the cost of service classified as commodity. The field transmission costs are then allocated to commodity sales and transportation services on the basis of peak and annual utilization of the facilities. The field transmission rates displayed above are derived by dividing the total costs allocated to field transmission service by the associated field transmission volumes (after field fuel is deducted) forecast for the rate period.

El Paso Natural Gas Company

Responses to Senator Bingaman  
Subcommittee on Mineral Resources Development and Production  
Dated 12 July, 1989

Request No. 2: How do El Paso's rates for these services compare to the rates assessed by other interstate pipelines for comparable services?

Response: Such comparisons, due to the uniqueness of each interstate pipeline's system and rate design, can be more misleading than enlightening. El Paso, in the spirit of open access, has unbundled its services and rates to a degree far beyond other interstate pipeline companies. To comply with the specific request, however, El Paso made comparisons of its rates with those of several other interstate pipeline companies and has attached a schedule showing the data. The Dunn and Bradstreet Official Pipeline Guide was the source for FERC filed rates. In summary, it appears that while El Paso's field transportation and processing rates are somewhat higher than the rates of other pipelines for bundled field services, El Paso's mainline transportation rates are generally lower when compared on a 100 mile increment basis.

As a further effort to make a more valid comparison, El Paso researched the field transportation and processing services provided and charges assessed by independent parties in the same producing areas that El Paso provides these services. In the Permian Basin, Jal area, where El Paso's field transportation and all production area charges apply, both Phillips and Union of Texas provide the same services to similar quality raw gas. Through market interviews it was ascertained that each of these companies gather and process gas for a percentage of the residue gas and processing liquids rather than a set fee. By applying current natural gas liquid values and spot market gas prices, it was determined that the effective total charges by these other companies were in the range of \$0.53 to \$0.97 per Mcf. In comparison, El Paso's combined Permian region charges amount to \$0.4796 (please refer to the rate table in response to Request No. 1). Thus, El Paso's field transportation and processing rates, when compared on an equal basis for equal services performed, are not higher, and may be lower, than other companies providing such services.

El Paso Natural Gas Company

Responses to Senator Bingaman  
Subcommittee on Mineral Resources Development and Production  
Dated 12 July, 1989

Request No. 3: Does El Paso charge the same rates for these services in all producing regions and does El Paso have any discretion to discount such rates?

Response: As the table of field rates provided in response to Request No. 1 shows, the field transmission rates in each of the major onshore producing regions is the same, while the plant processing rates in each region are different. Furthermore, El Paso charges only for the services indicated by the actual flow of gas through specific plant facilities on its system. For example, since typical natural gas produced in the San Juan basin is wet with water and natural gas liquids, the gas is flowed through field transmission pipelines to dehydration and products extraction plant facilities to be processed to mainline quality. Accordingly, such gas is charged for dehydration and products extraction services as well as field transportation. In the broader view, the natural gas production attached to El Paso's field facilities is so diverse in quality, and El Paso's field transmission system is so extensive a network, that dozens of unique combinations of field transportation, processing, fuel and shrinkage charges, as well as liquids revenue credits, are possible.

El Paso is authorized by the FERC to charge field transportation and processing rates within the range set by maximum and minimums stated in its tariffs. Any charge below the maximum would be considered a discounted rate. El Paso has periodically offered discounted field (and mainline) transportation rates to its shippers on a non-discriminatory basis, generally limited to gas which is being transported to specific delivery points on El Paso's system. Since the latter part of 1988, El Paso has announced monthly discounted rates for field transportation and mainline transportation to a specific list of "offsystem" delivery points. Such discounting was offered to allow producers and marketers on El Paso's system to enter and compete in non-traditional offsystem markets.



El Paso Natural Gas Company

Responses to Senator Bingaman  
Subcommittee on Mineral Resources Development and Production  
Dated 12 July, 1989

Request No. 4: Are there currently any proceedings pending at the Federal Energy Regulatory Commission in which El Paso's rates for gathering and processing services are at issue and what is the status of such proceedings, if any?

Response: As mentioned in the response to Request No. 1, El Paso's rates that became effective July 1, 1988 are subject to refund and are currently being litigated in Docket RP88-44. The procedural schedule has been expedited and the time table of that schedule as established by the administrative law judge is attached.

DIST: 7-6-89

418221

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

El Paso Natural Gas Company ) Docket Nos. RP88-44-000,  
 ) RP85-58-017, and  
 ) RP88-202-000 (Phase I)

PRESIDING ADMINISTRATIVE LAW JUDGE'S ORDER  
PRESCRIBING PROCEDURES

(Issued July 6, 1989)

The purpose of this order is to prescribe procedures for the preparation for, and conduct of, the hearing. The case was assigned to me with instructions to expedite the hearing and initial decision, particularly with respect to the issues arising out of the application to this proceeding of the Commission's May 30, 1989 policy statement in Docket Nos. PL89-2-000 et al. ("Policy Statement Providing Guidance With Respect to the Designing of Rates").

El Paso's status report on settlement negotiations and its motion to revise the procedural schedule, filed June 19, 1989, proposed a schedule which would include three rounds of simultaneous evidence filing on the subject of rate design, the first of which would take place on August 31, 1989, two rounds of data requests and responses thereto on rate design, consuming about five weeks apiece, and a two-week hiatus between the last evidence filing and the beginning of the hearing, which would occur on November 14, 1989.

El Paso reported that the procedural schedule it suggested was the product of a consensus of all parties who attended a settlement conference on June 13, 1989. As such, it is entitled to great weight. As the proposed schedule appears to be quite reasonable in light of the difficulty and complexity of the issues arising out of the application of the Commission's policy statement to the circumstances of this case, I would ordinarily adopt it without much hesitation. But this is not an ordinary case. Here I have been instructed to do whatever is necessary and possible to have the case ready for Commission disposition on the merits on or about January 1, 1990. That result cannot be achieved on the schedule El Paso has proposed.

In addition, two rounds of testimony appear to me to be sufficient for the purpose of producing a record on rate design that meets the criteria specified by the Commission in its policy statement. Although the rate design issue arises in the context of a section 4 rate case, the process of dealing with that issue has some of the characteristics of formal rulemaking. That is, since El Paso did not propose to deviate from the modified fixed-variable rate design it had previously employed, it seems that any radically different rate design that might emerge from this proceeding would be a rule as defined in the Administrative

Procedure Act: "an agency statement of . . . particular applicability and future effect designed to implement, interpret, or prescribe law or policy . . . [including] the approval or prescription for the future of rates . . .". 5 U.S.C. §551(4). As an initial matter, moreover, it appears that rate design changes that may emerge from this proceeding would be effective prospectively only. See Public Service Comm'n of The State of New York v. FERC, 866 F.2d 487 (D.C. Cir. 1989); Sea Robin Pipeline Co. v. FERC, 795 F.2d 182 (D.C. Cir. 1986); ANR Pipeline Co. v. FERC, 771 F.2d 507 (D.C. Cir. 1985).

It follows that, in dealing with procedures for making the record on rate design, there is less reason to be concerned with the order of evidentiary filing than there is when we are concerned with issues in a garden-variety rate case. The advantage of being on the side that gets the "last say" is relatively meaningless in the context of formal rulemaking, since the order in which the Commission will consider the evidentiary submission is anyone's guess. Thus, much of the jousting in the answers to El Paso's submission about the question of who has the burden of proof is simply beside the point.

The only question that merits extended consideration is El Paso's suggestion that "any party who supports a rate design alternative, including the alternative of maintaining the status quo, must affirmatively propose and provide evidence in support of their [sic] desired result" and the inference the pipeline would draw from this that a party who has not offered an affirmative case during the initial round of evidence ought to be precluded from filing rebuttal evidence. As might be expected, a number of intervenors reacted strongly and adversely to both segments of El Paso's position. In general, they argued that parties who support the "status quo" rate design, i.e., continuation of the MFV methodology under which El Paso designed the rates it filed in this proceeding, should (and, perhaps, must as a matter of law) be given the opportunity to rebut the evidence of proponents of change regardless of whether the pro-MFV party submits initial-round evidence. Some intervenors urged that a right to file rebuttal evidence was guaranteed as a matter of law. (To adopt El Paso's suggestion "would turn the Natural Gas Act on its head", said Pacific Gas and Electric Co.) Others complained that barring some parties from filing rebuttal evidence, regardless of its contents, was too stringent a step to take in order to prevent "sandbagging". (See, e.g., the Joint Response of the El Paso Municipal Group et al. at p. 10.)

The statutory burden of proof in rate cases does indeed rest on the proponent of a change in the pre-existing rates, even when the proponent is the Commission or its Staff. See, e.g., Tennessee Gas Pipeline Co. v. FERC, 860 F.2d 446 (D.C. Cir. 1988). But the term "burden of proof" in this context refers only to the burden of persuasion. That does not dictate the

order in which evidence must be presented. At this stage of the case, we are concerned only with the order in which evidence will be presented. Since there will be no jury, and the order in which evidence is submitted has no necessary relationship to the order in which it will be considered when the decision in the case is written, the determination of who goes first and who goes later (and whether one who has not filed in the first round is thereafter precluded from filing in later ones) turns largely on practical and logistical considerations. Clearly, the prevention of "sandbagging" -- the use of goi-distant "rebuttal" testimony to make a new affirmative case which cannot be rebutted -- is the most significant of those practical considerations.

El Paso is right to be concerned with the prospect of numerous intervenors withholding their case-in-chief proposals for new rate design methodologies until the rebuttal round of testimony, so that there will be no opportunity to present testimony discussing the merits of those proposals. Nevertheless, it seems that its prescription for preventing "sandbagging" is too draconian in light of the evil it seeks to address. If participants unfairly withhold evidence until the rebuttal round, the appropriate remedy appears to be a motion to strike the proffered evidence. The Presiding Judge will be vigilant to prevent "sandbagging" and will not hesitate to strike material which should have been, but was not, submitted during the first round of evidence filings. If that is done, we can avoid requiring participants to file unnecessary or pro forma evidence solely in order to preserve their positions.

Our limited experience with the Commission's May 30 policy statement indicates that in order to have a useful record on rate design the witnesses must all address the same cost-of-service and throughput figures. Only if that is done can we compare the various theoretical approaches sponsored by the witnesses to determine what the practical consequences will be, not only for the purpose of assuring that adoption of a particular rate design does not result in overcollection or undercollection of the pipeline's revenue requirement but also for purpose of ascertaining the impact of a particular rate design "tilt" on the rates paid by specific customers and classes of customers. Consequently, this order requires the participants to meet at an early stage to work out a stipulation on the cost of service and the volumes that the pipeline will handle with respect to each service offered in its tariff. The figures to be developed should be realistic. However, it should be stressed that they are purely hypothetical and illustrative, and stipulating to them for purposes of examining rate design alternatives will in no way prejudice any participant's position on the development of the appropriate figures to be used in arriving at just and reasonable rates for El Paso's jurisdictional services. The participants may, if they wish, stipulate that the figures that El Paso filed

when it instituted this proceeding shall be used to explicate various rate design methodologies.

A word on discovery is also in order. The procedural schedule calls for two rounds of discovery on rate design issues. One, preceding the filing of case-in-chief evidence, is for "general" discovery, *i.e.*, the gathering of basic facts, including the delineation of the characteristics of the El Paso system and its service that are relevant to the rate design issue. The purpose of the second round of discovery, which is relatively brief, is to permit the participants to make data requests pertaining to the subject-matter of the first round testimony. In the circumstances of this proceeding, given the need for expedition in the handling of this case, discovery will be more truncated than it is in the normal case and objections grounded in the claim of undue burden will be considered sympathetically. In particular, the Presiding Judge does not believe that the goal of expedition can be squared with the performance of extensive new studies or similar demands for data that does not presently exist in, or cannot readily be obtained from, the books and records of the pipeline. In case of conflict between the two *desiderata*, the interests of expedition will prevail in almost all cases. The foregoing discussion applies to the Commission Staff just as it does to other participants.

The procedural schedule set forth below calls for two prehearing conferences to deal with disputes about discovery. If a motion to compel discovery is not timely filed, the conference will be cancelled. A motion to compel discovery as to a data request should include the text of the data request at issue and the text of the response to the data request by the participant who is resisting compliance with the request. There will be no written answer to the motion; however, an oral answer will be entertained at the conference.

In consideration of the foregoing, the following procedural schedule is prescribed:

|                                                                                     |                              |
|-------------------------------------------------------------------------------------|------------------------------|
| Data requests on rate design issues . . . . .                                       | July 17, 1989                |
| Objections to data requests . . . . .                                               | July 24, 1989                |
| Prehearing conference on discovery disputes . . . . .                               | July 26, 1989<br>(9:30 A.M.) |
| Responses to data requests . . . . .                                                | August 15, 1989              |
| Filing of stipulation on cost of service and volumes transported and sold . . . . . | August 21, 1989              |

Initial testimony on rate  
design issues . . . . . August 31, 1989

Data requests on testimony . . . . . September 7, 1989

Objections to data requests . . . . . September 12, 1989

Prehearing conference on  
discovery disputes . . . . . September 14, 1989  
(9:30 A.M.)

Rebuttal testimony on rate design  
issues . . . . . September 22, 1989

Prehearing briefs . . . . . September 28, 1989

Hearing . . . . . October 2, 1989  
(10 A.M.)

Any participant that presents evidence or submits a brief or other document purporting to show the rate impact of a cost allocation, cost classification, or rate design method shall derive the rate impact based upon the stipulated cost of service as contained in the stipulation required to be filed on August 21, 1989. However, the presentation of evidence or the filing of a brief or other document in accordance with the requirements of the preceding sentence shall not (1) preclude any participant from taking a different position on an issue other than rate design; (2) prejudice the settlement of rate design or any other issue in this proceeding; or (3) preclude any participant from presenting evidence, briefs, or any other document proposing rates that are predicated on a cost of service or on volumes transported and sold that differ from those set forth in the stipulation, as long as the participant also complies with the first sentence of this paragraph.

IT IS SO ORDERED.

*Isaac D. Benkin*  
Isaac D. Benkin

Presiding Administrative Law Judge



## VARIOUS INTERSTATE MAINLINE RATE COMPARISONS (\$/MMBTU/100 MILES)

COMPARE RT1

3/27/89 - DMS

| TRANSPORTATION EXAMPLE                                                 | TECHNICAL DESCRIPTION | MAX RATE<br>(\$/MMBTU) | ESTIMATED<br>MILEAGE | RATE/100 MILES<br>(\$/MMBTU) | % FUEL |
|------------------------------------------------------------------------|-----------------------|------------------------|----------------------|------------------------------|--------|
| EL PASO NATURAL GAS CO.                                                |                       |                        |                      |                              |        |
| Araderko Basin - California                                            |                       | 0.3474                 | 1096                 | 0.0317                       | 5.0%   |
| Pernian Basin - California                                             |                       | 0.2993                 | 786                  | 0.0381                       | 5.0%   |
| San Juan Basin - California                                            |                       | 0.2556                 | 460                  | 0.0556                       | 5.0%   |
| Backhaul Rates generally given to equal approx. 1/2 forward haul rate. |                       |                        |                      |                              |        |
| Discounts given to off-system points, never to primary Cal. market.    |                       |                        |                      |                              |        |

## TEXAS EASTERN TRANSMISSION CORP.

|                                                                             |                    |        |      |        |      |
|-----------------------------------------------------------------------------|--------------------|--------|------|--------|------|
| Offshore LA. - New Orleans                                                  | Zone A 0-200 miles | 0.0645 | 200  | 0.0323 | 1.0% |
| Southwest Ark - Little Rock                                                 | Zone B to Zone B   | 0.1230 | 200  | 0.0615 | 1.0% |
| Offshore New Or. - Jackson MS                                               | Zone A to Zone B   | 0.3063 | 400  | 0.0766 | 2.0% |
| Offshore New Or. - Lexington KT                                             | Zone A to Zone C   | 0.4990 | 900  | 0.0554 | 3.0% |
| Offshore New Or. - Baltimore                                                | Zone A to Zone D   | 0.5627 | 1300 | 0.0433 | 4.0% |
| No Backhaul Rates                                                           |                    |        |      |        |      |
| Some zone discounts offered. Approx 10% off Z2, 20% off Z3 & Z4 deliveries. |                    |        |      |        |      |

## TRANSCONTINENTAL GAS P/L CORP.

|                                    |                      |                 |      |        |      |
|------------------------------------|----------------------|-----------------|------|--------|------|
| LA offshore - Jackson Miss.        | Station 65 to Zone 1 | 0.1290          | 150  | 0.0860 | 3.1% |
| LA offshore - Atlanta GA.          | Station 65 to Zone 1 | 0.1290          | 400  | 0.0323 | 3.1% |
| LA offshore - Ashville NC.         | Station 65 to Zone 2 | 0.1570          | 700  | 0.0224 | 5.8% |
| LA offshore - Baltimore            | Station 65 to Zone 3 | 0.1930          | 1000 | 0.0193 | 6.6% |
| Discounts:                         |                      |                 |      |        |      |
| LA offshore - Jackson Miss.        | Station 65 to Zone 1 | .0197/ 25 miles | 150  | 0.0760 | 3.1% |
| LA offshore - Atlanta GA.          | Station 65 to Zone 1 | 0.0700          | 400  | 0.0175 | 3.1% |
| LA offshore - Ashville NC.         | Station 65 to Zone 2 | 0.1080          | 700  | 0.0134 | 5.8% |
| LA offshore - Baltimore            | Station 65 to Zone 3 | 0.1500          | 1000 | 0.0130 | 6.6% |
| Backhauls = 1/2 Forward Haul Rate. |                      |                 |      |        |      |

| TRANSPORTATION EXAMPLE                                                      | TECHNICAL DESCRIPTION        | MAX RATE<br>(\$/HHBTU) | ESTIMATED<br>MILEAGE | RATE/100 MILES<br>(\$/HHBTU) | % FUEL    |
|-----------------------------------------------------------------------------|------------------------------|------------------------|----------------------|------------------------------|-----------|
| TENNESSEE GAS PIPELINE CO.                                                  |                              |                        |                      |                              |           |
| LA offshore - Jackson Miss.                                                 | Supply Area to Supply Area   | 0.1646                 | 400                  | 0.0412                       | 1.25%     |
| LA offshore - Nashville                                                     | Supply Area to Zone 1        | 0.2527                 | 500                  | 0.0505                       | 2.70%     |
| LA offshore - Lexington KT.                                                 | Supply Area to Zone 2        | 0.3527                 | 700                  | 0.0504                       | 3.71%     |
| LA offshore - Charleston W.                                                 | Supply Area to Zone 3        | 0.3847                 | 850                  | 0.0453                       | 4.34%     |
| LA offshore - Pittsburg PENN.                                               | Supply Area to Zone 4        | 0.4596                 | 1000                 | 0.0460                       | 5.27%     |
| Beckhaul Rate = Forward Haul Rate                                           |                              |                        |                      |                              |           |
| Selected Discounts given (40 in 11/88). Range 18% - 50% off.                |                              |                        |                      |                              |           |
| NORTHERN NATURAL GAS CO.                                                    |                              |                        |                      |                              |           |
| Northern Dumas - Plains                                                     |                              | 0.1200                 | 350                  | 0.0343                       | 1.75%     |
| Northern Gray Co. - Plains                                                  |                              | 0.0780                 | 180                  | 0.0433                       | 1.25%     |
| Northern Gray Co. - Keystone                                                |                              | 0.0910                 | 220                  | 0.0414                       | 1.25%     |
| Maximum Haul                                                                |                              | 0.3740                 | 1000                 | 0.0374                       | 2.00% (?) |
| AMR PIPELINE COMPANY                                                        |                              |                        |                      |                              |           |
| Texas Panhandle to Chicago                                                  | Southwest Area to Chicago 1/ | 0.7127                 | 700                  | 0.1018                       | 3.00%     |
| LA Gulf Coast to Detroit                                                    | Southeast Area to Detroit 2/ | 0.7505                 | 800                  | 0.0950                       | 3.00%     |
| 1/ Charge is an aggregate rate comprised of: \$0.1186 Gathering (Southwest) |                              |                        |                      |                              |           |
| \$0.5052 Mainline access charge                                             |                              |                        |                      |                              |           |
| \$0.0127 mileage charge per 100 miles.                                      |                              |                        |                      |                              |           |
| 2/ Charge is an aggregate rate comprised of: \$0.1530 Gathering (Southeast) |                              |                        |                      |                              |           |
| \$0.5052 Mainline access charge                                             |                              |                        |                      |                              |           |
| \$0.0127 mileage charge per 100 miles.                                      |                              |                        |                      |                              |           |

## VARIOUS INTERSTATE GATHERING AND PROCESSING RATE COMPARISONS (\$/MMBTU)

COMPARE.RT2  
3/28/89 - DM8

|                                               | BUNDLED<br>GATH/PROCS<br>RATE | GATH & PLNT<br>FUEL<br>RATE | GATNER<br>RATE | DENY<br>RATE | PURIFY<br>RATE | PROD. EXTRAC<br>RATE | COMMENTS / SOURCES                                                                                                                                                                                                        |
|-----------------------------------------------|-------------------------------|-----------------------------|----------------|--------------|----------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EL PASO NATURAL GAS CO.                       | NO                            | .5% - 15.8%                 | 0.2075         | .0199-.0550  | .0300-.1500    | .1321-.1450          | - ON FUEL, ANETH EXCLUDED AS IS INACTIVE.<br>- GATHERING DISCOUNTED TO \$0.0800/MMBTU FOR OFF-SYSTEM DELIVERIES                                                                                                           |
| WILLIAMS NATURAL GAS CO.                      | 0.1853                        | 2.40%                       |                |              |                |                      | OPG & FROM GAS BROKERS                                                                                                                                                                                                    |
| NORTHERN NATURAL GAS COMPANY                  | 0.1354                        | NO FUEL                     |                |              |                |                      | FROM GAS BROKERS                                                                                                                                                                                                          |
| TRANSMISSION PIPELINE CO.                     | 0.1579                        | 0.0% - 2.2%                 |                |              |                |                      | OPG                                                                                                                                                                                                                       |
| NATURAL GAS P/L COMPANY                       | 0.2954                        | NO FUEL                     |                |              |                |                      | - MAPL TEE MANAGER<br>- INTERIM RATE SUBJECT TO REFUND. EXPECTED TO COME DOWN.                                                                                                                                            |
| AMR PIPELINE COMPANY                          | .1186-.1530                   | 0.0% - 1.0%                 |                |              |                |                      | - AMR TEE REP. & OPG<br>- MUCH OF AMR'S GATHERING AND PROCESSING COST PROBABLY REALLOCATED.<br>THEIR GATHERING FEE IS FOLLOWED BY A MAINLINE ACCESS FEE EQUAL<br>TO 0.5052/MMBTU AND THEN A M/L RATE OF 0.0127/100 MILES. |
| 1 TENNESSEE GAS P/L CO.                       | 0                             | 0.00%                       |                |              |                |                      | - OPG & GAS BROKERS<br>- ALL GATHERING AND PROCESSING COSTS ROLLED INTO M/L RATE.                                                                                                                                         |
| TEXAS EASTERN TRANSMISSION CORP.              | 0                             | 0.00%                       |                |              |                |                      | - OPG & GAS BROKERS<br>- ALL GATHERING AND PROCESSING COSTS ROLLED INTO M/L RATE.                                                                                                                                         |
| NORTHWEST PIPELINE CO.                        |                               |                             |                |              |                |                      | - PROPOSED GATHERING AND PROCESSING RATES.<br>- MAPL TO RETAIN LIQUIDS AND KEEP SHIPPERS BTU WHOLE<br>- MAPL TEE MANAGER                                                                                                  |
| PROPOSED:<br>PROBABLE SETTLEMENT OR DISCOUNT: |                               | 3.40%                       | 0.3400         | 0.1100       |                |                      |                                                                                                                                                                                                                           |
|                                               |                               | 3.40%                       | .1530-.2000    | 0.1100       |                |                      |                                                                                                                                                                                                                           |

| BUNDLED                     |             |        |             |        |              |                                                                   |
|-----------------------------|-------------|--------|-------------|--------|--------------|-------------------------------------------------------------------|
| GATH/PROCS                  | GATH & PLMT | GATHER | DEHY        | PURIFY | PROD. EXTRAC | COMMENTS / SOURCES                                                |
| FUEL                        | RATE        | RATE   | RATE        | RATE   | RATE         |                                                                   |
| -----                       |             |        |             |        |              |                                                                   |
| UNION TEXAS PETROLEUM       |             |        |             |        |              |                                                                   |
| Perkins and Benedict Plants |             |        |             |        |              |                                                                   |
| PRODUCTS IN LIEU OF CHARGES |             |        |             |        |              |                                                                   |
| -----                       |             |        |             |        |              |                                                                   |
| 10.00%                      |             |        | 10% Residue |        |              | - LIQUID SHRINK CAN BE 30% - 50% WELLHEAD BTU'S (APPROX 3- 5 GPM) |
|                             |             |        | 50% Liquids |        |              | ASSUME GAS = \$1.50/MMBTU AND NGL'S = \$0.25/GAL                  |
|                             |             |        |             |        |              | SHRINK = 30% (3 GPM'S)                                            |
|                             |             |        |             |        |              | NGL'S RETAINED = 50% = 1.5 GPM * \$9.25 = \$0.38                  |
|                             |             |        |             |        |              | GAS RETAINED = 10% = 10% * \$1.50 = \$0.15                        |
|                             |             |        |             |        |              | PRODUCTS VALUE IN LIEU OF CHARGES = \$0.53                        |
|                             |             |        |             |        |              | SHRINK = 50% (5 GPM'S)                                            |
|                             |             |        |             |        |              | NGL'S RETAINED = 50% = 3 GPM * \$9.25 = \$0.75                    |
|                             |             |        |             |        |              | GAS RETAINED = 10% = 10% * \$1.50 = \$0.15                        |
|                             |             |        |             |        |              | PRODUCTS VALUE IN LIEU OF CHARGES = \$0.90                        |
| -----                       |             |        |             |        |              |                                                                   |
| PHILLIPS PETROLEUM PLANTS   |             |        |             |        |              |                                                                   |
| Eunice and Goldsmith Plants |             |        |             |        |              |                                                                   |
| 5.00%                       |             |        | 35% Residue |        |              | - LIQUID SHRINK CAN BE 30% - 50% WELLHEAD BTU'S (APPROX 3- 5 GPM) |
|                             |             |        | 35% Liquids |        |              | ASSUME GAS = \$1.50/MMBTU AND NGL'S = \$0.25/GAL                  |
|                             |             |        |             |        |              | SHRINK = 30% (3 GPM'S)                                            |
|                             |             |        |             |        |              | NGL'S RETAINED = 35% = .525 GPM * \$9.25 = \$0.13                 |
|                             |             |        |             |        |              | GAS RETAINED = 35% = 35% * \$1.50 = \$0.53                        |
|                             |             |        |             |        |              | PRODUCTS VALUE IN LIEU OF CHARGES = \$0.66                        |
|                             |             |        |             |        |              | SHRINK = 50% (5 GPM'S)                                            |
|                             |             |        |             |        |              | NGL'S RETAINED = 35% = 1.75 GPM * \$9.25 = \$0.44                 |
|                             |             |        |             |        |              | GAS RETAINED = 35% = 35% * \$1.50 = \$0.53                        |
|                             |             |        |             |        |              | PRODUCTS VALUE IN LIEU OF CHARGES = \$0.97                        |

## LITTLE

OIL &amp; GAS, INC.

Sylvia F. Little, President

2346 EAST 20TH STREET  
P O BOX 1258 • FARMINGTON, NEW MEXICO 87400  
FAX (505) 327-4177 • OFF (505) 327-3003

July 25, 1989

Senator Jeff Bingaman  
524 Hart Senate Office Bldg.  
Washington, DC 20510

Dear Senator,

The attached comments are in response to your letter of July 12, 1989. It is difficult at times to explain in detail the existing situations in short, comprehensible sentences. It would take several books to explore the possibilities and consequences of any proposed actions. I will be glad to elaborate on anything further.

In addition to the above, I enclose a copy of my reply to a recent survey conducted by the State Minerals Department together with the University of New Mexico, which I think may be of some interest to you.

Thank you for your continued interest.

Very truly yours,

SYLVIA F. LITTLE

SFL/ac

Encl.

COPY

BINGAMAN: At the Farmington hearing, New Mexico producers testified as to the adverse impact that rates for natural gas transportation, processing and gathering have upon wellhead netback prices that they receive.

- o Would you please elaborate on this testimony and provide specific examples?

LITTLE: Attached is a printout labeled Exhibit 'A' showing actual figures from producing gas wells that I operate in the San Juan Basin, New Mexico. Natural gas production from these wells was sold on Spot Market in May 1989 and transported through an Open-Access pipeline.

- Column 1....Date of production was the month of May, 1989.
- Column 2....Meter number assigned by pipeline to this particular wellhead.
- Column 3....Volume of gas (in MMBTU) measured by pipeline metering equipment installed at wellsite.
- Column 4....Volume of gas available at pipeline's main transportation line, after passing through pipeline's gathering system and processing/treatment plant.
- Column 5....Percent of gas volume reduction (loss) between production point at wellhead and sales point at plant tailgate where it enters the mainline.
- Column 6....Price paid per MMBTU by Spot Market purchaser for volume available at tailgate (mainline).
- Column 7....Price multiplied by volume sold.
- Column 8....Dollar amount paid by producer to pipeline and plant for gathering and processing natural gas in May for this well.
- Column 9....Dollar amount credited to producer by plant for a certain (undeterminable) percentage of sales value of liquids removed from natural gas produced by this well. This is reported to be determined by the recorded BTU content of the well's gas, and by the plant's quantity of liquid sold, and by the dollar amount for which the plant sold the liquids during May.
- Column 10....This column represents the total dollar amount received by the producer at the point of sale. It is the sum of Column 7-less-Column 8-plus-Column 9.
- Column 11....Calculated netback-to-wellhead before deductions, as



determined by dividing Column 10 [total amount received] by Column 3 [wellhead volume].

These figures are taken directly from my spot-market-operations computer. I have similar spot market history on more than 100 wells for more than 12 months available for printout if you require further information.

These are the rates San Juan Producers were describing in their testimony as having an adverse impact on their ability to compete in marketing their gas. Column 5 shows that a producer can lose almost ONE-THIRD of a well's production before the point of sale. Producers are further charged dollar amounts for the process. Sometimes the liquids credits can replace the dollar amount charged - such as Well #45.371 whose liquid credits raised the total price received. But more often the producer's cost for liquifying the gas exceeds the amount of credits he receives in return, shown in Wells #46.973, #47.125, #47.682, etc.

- o Compared to natural gas producers in other regions, are New Mexico producers at a competitive disadvantage due to the level of such rates charged by the pipelines on which New Mexico producers must transport their gas to markets?

LITTLE: Although the pipeline from New Mexico to California was once filled with New Mexico gas, we are now seeing under Open Access regulations, that it now transports a great deal of gas from other regions into California. Except for gathering and processing charges through the San Juan plant as mentioned above, the rates to transport gas from New Mexico to California seem to be lower than those from Texas or Oklahoma to California.

Another pipeline comes into California from Canada. Since the utility company buying the Canadian gas also owns the pipeline, it's difficult to ascertain the true cost of transportation on that line for comparison purposes.

BINGAMAN: At the hearing, producers testified that most of their gas purchase contracts were 30 days in duration and in general were skeptical about any return to longer term supply arrangements in the near future.

- o Can 30-day contracts ever provide the requisite cash flow and financial certainty that would

appear to be necessary to support increased exploration and production activity?

LITTLE: No, Senator, I don't think so. Increased exploration and production activity can only be supported by these two certainties: 1...Assurances of sufficiently high wellhead-netback prices of long-term duration; and 2...Contracts from pipelines, to include automatic connections for newly drilled wells, in addition to firm transportation or purchase of gas production from such wells. There are also other incentives to support increased exploration and drilling programs when that becomes the object (as opposed to selling natural gas from proven reserves at the lowest possible price).

- o What would it take in terms of price and contract terms to get you to enter a long-term contract for the sale of your production, say a contract for a year?

LITTLE: It would take a stable, well-recognized price index mechanism on which to rely as a base for monthly price adjustments (or Federal minimum-price guidelines), for a small independent producer to discuss with a purchaser a 12-month gas contract.

But there may be circumstances in our region that could preclude long term gas purchase agreements being made between producers and marketers or end-users. That is, the pipeline to which most of the wells in the state are connected, did retain many gas-purchase agreements (contracts) when they settled take-or-pay. Therefore, one-year contracts with other purchasers may be interrupted if the pipeline were to recall its contract-gas which has been temporarily released (month-by-month) for spot market sales.

BINGAMAN: What can be done to enhance the competitiveness of the independent natural gas producers in New Mexico?

- o What should the producers be doing themselves?

LITTLE: The small independent gas producers should begin to learn how to market their own gas, or to contact aggregators or marketers to get the New Mexico gas back into the pipeline!

- o What suggestions do you have as to what the

Federal Energy Regulatory Commission should  
be doing?

LITTLE: F.E.R.C. could encourage the pipeline to repeal the unbundled rate structure in the San Juan Basin; then perhaps the pipeline could return to the 5% gathering and processing rate which was in effect prior to July 1988. Then, with lower gathering and processing rates, New Mexico would be in a more competitive position in getting natural gas to market. It may also be possible that the pipeline's grandfather contracts belong to producers outside New Mexico, thereby bumping New Mexico gas off the pipeline, regardless of price.

The pipeline continues to bump off other gas in disproportionate amounts in favor of newly drilled gas from coal seam wells. Many wells in the San Juan Basin are currently shut in by the pipeline (disproportionately, which is against the rules) in order to dump their own supply of gas into the California market at cheap cheap prices (this isn't the first time). The independent producers could compete on a level playing field...but sometimes the pipeline doesn't seem to play fair.

The ultimate goal of the F.E.R.C., however, should be to protect the burner-tip consumer from excessively high energy prices, and in this regard should possibly consider the fact that we have too many middlemen today cutting down on cash flow required by producers to support exploration and drilling programs necessary to provide our nation with a continuing supply of cheap energy.

o           Is there anything that the United States  
Congress can do?

LITTLE: Senator, given the fact that New Mexico gas is just as much in demand as natural gas from other regions, I don't understand the fact or the perception that we have lost our market share, or that we are uncompetitive.

However, I believe the objective should be to encourage redevelopment of a viable exploration and production industry. We do need tax and price incentives; tax credits such as tight sands, coal seam, etc.; and tax credit or price incentive to continue flowing stripper gas wells that would otherwise have to be plugged, etc.

Congress should continue seeking to protect the public by continuing their interest and inquiry into industry changes. Action, however, should be determined by the goals we establish. If we don't figure out what our objectives are, and move toward them, we will continue to ride this roller coaster well into the next century.

EXHIBIT "A"  
ACTUAL WELL FIGURES  
TOTAL ANALYSIS

| RUNS DATE | WELL<br>METER<br>NO. | WELLHEAD<br>MMBTU<br>PROD. | TAIL<br>GATE<br>MMBTU | % PAID<br>PLANT<br>MMBTU | SPOT<br>MKT.<br>PRICE | SPOT<br>MKT.<br>AMT. | PROCES.<br>& GATH.<br>PAID | LIQUID<br>CREDITS<br>REC. | ACTUAL<br>SPOT MVT.<br>AMT. REC. | WELLHEAD<br>NETBACK<br>GROSS |
|-----------|----------------------|----------------------------|-----------------------|--------------------------|-----------------------|----------------------|----------------------------|---------------------------|----------------------------------|------------------------------|
| 05/1989   | 36.020               | 632                        | 531                   | 15.98                    | \$1.67                | \$886.77             | \$163.04                   | \$85.49                   | \$809.22                         | \$1.26                       |
|           | 43.795               | 605                        | 460                   | 23.97                    | \$1.67                | \$768.20             | \$156.18                   | \$130.11                  | \$742.13                         | \$1.23                       |
|           | 45.276               | 650                        | 453                   | 30.31                    | \$1.67                | \$756.51             | \$167.76                   | \$187.08                  | \$775.83                         | \$1.19                       |
|           | 45.371               | 1566                       | 1054                  | 32.69                    | \$1.67                | \$1760.18            | \$404.24                   | \$426.34                  | \$1782.28                        | \$1.14                       |
|           | 46.027               | 4350                       | 2842                  | 34.67                    | \$1.67                | \$4746.14            | \$1122.62                  | \$1229.87                 | \$4853.39                        | \$1.12                       |
|           | 46.036               | 957                        | 579                   | 39.50                    | \$1.67                | \$966.93             | \$246.92                   | \$330.87                  | \$1050.88                        | \$1.10                       |
|           | 46.552               | 1200                       | 937                   | 21.92                    | \$1.67                | \$1564.79            | \$309.58                   | \$216.36                  | \$1471.57                        | \$1.23                       |
|           | 46.578               | 700                        | 502                   | 26.29                    | \$1.67                | \$838.34             | \$180.52                   | \$182.40                  | \$840.22                         | \$1.20                       |
|           | 46.970               | 2011                       | 1100                  | 45.30                    | \$1.67                | \$1837.00            | \$518.80                   | \$810.18                  | \$2128.36                        | \$1.06                       |
|           | 46.973               | 1326                       | 1052                  | 20.66                    | \$1.67                | \$1756.84            | \$342.21                   | \$240.93                  | \$1655.56                        | \$1.25                       |
|           | 47.006               | 1958                       | 1440                  | 26.46                    | \$1.67                | \$2404.80            | \$505.24                   | \$422.07                  | \$2321.63                        | \$1.19                       |
|           | 47.125               | 456                        | 356                   | 27.62                    | \$1.67                | \$597.66             | \$128.07                   | \$116.03                  | \$585.82                         | \$1.16                       |
|           | 47.133               | 315                        | 225                   | 28.57                    | \$1.67                | \$375.75             | \$81.31                    | \$88.21                   | \$382.65                         | \$1.21                       |
|           | 47.333               | 2716                       | 1581                  | 41.79                    | \$1.67                | \$2640.27            | \$700.89                   | \$850.25                  | \$2769.67                        | \$1.03                       |
|           | 47.501               | 1041                       | 853                   | 18.06                    | \$1.67                | \$1424.51            | \$366.70                   | \$0.00                    | \$1057.81                        | \$1.02                       |
|           | 47.682               | 1200                       | 647                   | 29.42                    | \$1.67                | \$1414.49            | \$309.58                   | \$291.10                  | \$1396.01                        | \$1.16                       |
| =====     | =====                | =====                      | =====                 | =====                    | =====                 | =====                | =====                      | =====                     | =====                            | =====                        |
| Total:    |                      | 21723                      | 14814                 |                          |                       | \$24739.38           | \$5703.66                  | \$5607.33                 | \$24643.05                       |                              |

## OTHER OBSERVATIONS

Given the fact that New Mexico gas is just as much in demand as natural gas from other regions, why is it not being sold?

1. Many producers are receiving cash flow from sale of oil production or from other sources, and have shut in most of their gas production because they refuse to sell at current prices. (Higher wellhead prices would help.)
2. Smaller independent producers don't know how to sell their gas on spot market, nor how to find end-users, and can't afford to hire the required personnel, or to buy the required equipment (fax machine and computer with modum, etc.).
3. The State of New Mexico has ordered many wells shut in because of their production allowable (proration) scheduling. (They say problem will be solved by Christmas.)
4. Because of price and marketing problems, lower-volume wells became a burden and were plugged. (Too late to help now.)
5. Pipeline's grandfather shippers produce a lot of gas in Texas and Oklahoma and have first rights on pipeline to California, and perhaps even lower-priced gas can't get to market on pipeline.
6. The economy of the State will continue to fall as coal seam drilling draws to a close and service industries move out of state.
7. The gas that is flowing from New Mexico is being sold at such low prices that State tax receipts have continued to drop dramatically. (Need higher wellhead prices.)
8. The pipeline is still selling its own gas at lower prices in competition with producers.
9. The pipeline will be bringing Wyoming and Canadian gas through the San Juan Basin pipeline which will displace New Mexico gas going to California.

The Mining and Minerals Division of the New Mexico Department of Energy, Mineral and Natural Resources and the CNM Institute for Public Policy are conducting a study of the effect of various government policies on the state's extractive industries. As an important part of this study, we are attempting to ascertain the perspective of firms in the extractive industry regarding the effect of government policies on efforts to maintain and expand operations. In particular, we wish to assess the impact of environmental, reclamation, taxation, employment, transportation, and utility policies, as well as market factors, on the successful operation of New Mexico's extractive industry firms.

We would appreciate your careful consideration of, and responses to, this questionnaire. Results will be used in the development of the Energy and Minerals Economic Development Strategy for New Mexico. These results WILL NOT BE released in such a manner that responses can be attributed to any particular firm; individual firm responses will be kept completely confidential. Should you want a tabulation of the results, contact the Mining and Minerals Division at 827-5905 and we will send it to you as soon as the survey analysis is completed.

1. Would you briefly indicate what specific policies of federal, State or local governments that affect your firm do the most to frustrate or inhibit operations and expansion of your firm?
2. What specific policy changes do you think would do the most to encourage the operation and/or expansion of firms in your industry?
3. Thinking ahead about five years, what do you anticipate will be the biggest hurdles to continued operation and expansion of firms such as yours? (E.g., environmental regulations, intensified market competition, transportation, utility costs, federal import/export policies, Indian Lands issues, etc.?)



## NMDE/UNM SURVEY - JULY 1989

## I

1. BLM makes continued demands - for example, all-weather roads; security-procedures compliance; and environmental requirements.... costing the producer and UncleSam more than the value of the product.
2. Production allowables set by State government shuts in producing gas wells.
3. Disposal of oil field waste.
4. Continued efforts by State Land Office and the State Legislature to institute new and abusive collections from an already over-burdened oil and gas industry. Over-taxation by State, including severance tax at wellhead, and new requests for gross receipts tax and possible severance tax and State royalty demands on contract buy-down/buy out, making all new demands retroactive back to 1985!
5. FERC has unbundled certain pipeline rates, which raised processing and gathering rates from 5% to a possible 30%, rendering San Juan Basin gas non-competitive.
6. Unfair Minerals Management Service fines and interest payable by producers on price revisions made by pipeline.
7. FERC open-access policies discourage pipelines from buying and selling natural gas from small producers who don't know how to market their own gas.
8. FERC policy allowing Pipelines to create grandfather contracts has sent gas flowing from other regions through pipelines that traditionally held New Mexico gas. It may not always be price that makes the difference as to whose gas is in the pipeline to California.
9. Because of FERC's continued determination to keep the price of gas at the wellhead down, despite the obvious fact that burner-tip price has not gone down significantly, and middlemen have been created that will not go away when wellhead price rises, it will soon be the consumers' turn to suffer...not only because they themselves are short-sighted in refusing to pay for replacement of producing gas reserves, but because the Federal government did not protect their interest when it could have.

## II

A-1. Reverse policy tendencies mentioned in answers to Questions I and III.

1. Tax incentives and higher wellhead price would encourage new exploration and drilling interest.
2. Small independent producers should be made aware of how to market their gas, or be put in touch with a local aggregator to do it for them, so that more New Mexico gas might flow.
3. FERC should consider regional differences rather than applying rules and regulatory policies straight across the country. The cost to get natural gas to the mainline for transportation from the San Juan Basin could be lowered by removing the unbundled rates, making New Mexico gas more competitive with the Oklahoma and Texas gas that now fills the El Paso natural gas pipeline to California.
4. Lower completion and production costs will be necessary. This includes many new, costly, demands such as higher tax and insurance rates, measurement and gathering line costs, unreasonable environmental demands, and marketing expense.
5. A public relations program should be initiated to tell the public as well as governmental agencies the immensely significant role that has been played in the development of our nation by the oil and gas industry. Leave no contribution unmentioned!

## III

1. The pipeline traditionally arranged and paid for well connections, right-of-way easements, contracting and installation of gathering lines, measuring equipment, meter house, mainline connections, gathering and treatment or processing costs, purchasing of natural gas, and transportation to utility or other end-user. These costs are now burdening the independent producer, along with other costs previously mentioned. Marketing their own gas is very much of a burden for the independent producer, and very costly as well. Gas Marketing is a highly technical industry in its own right, and this additional, costly, burden will probably do more to drive the independent out of business than any other factor.

2. Environmental regulations.

3. Indian Land issues.

4. Public and Governmental attitudes will continue to be one of the biggest

hurdles to continued operation and expansion of the oil and gas industry as a whole. Market competition, in the long run, really does nothing to protect the consumer if the Independent segment of the industry is lost to the major oil companies. If our object is to create a stable environment within which to supply the nation a constant supply of reasonably-priced fuel, then we had better begin to think more creatively than market-demand-supply-price. We'd better start immediate action to replace the diminishing supply of proven, producing reserves.

## APPENDIX II

Additional Material Submitted  
for the Record

STATE OF CALIFORNIA—THE RESOURCES AGENCY

GEORGE DEUKMEJIAN, Governor

## CALIFORNIA ENERGY COMMISSION

RICHARD A. BILAS, COMMISSIONER  
1516 NINTH STREET  
SACRAMENTO, CA 95814-5512  
(916) 324-3331



July 5, 1989

Mr. Jeff Bingaman, Chairman  
Subcommittee on Mineral Resources  
Development and Production  
Committee on Energy and Natural Resources  
United States Senate  
Dirksen Office Building, Room 364  
Washington, D.C. 20510-6150

Dear Mr. Bingaman:

Thank you very much for your invitation to testify before the Subcommittee on Mineral Resources Development and Production of the Senate Committee on Energy and Natural Resources. I regret that a Member of the California Energy Commission was unable to personally attend. However, I would like to offer the following comments for the consideration of the Subcommittee.

The California Energy Commission has long supported policies which seek to increase the productivity of natural gas and other resources by using market-oriented approaches. The issues of New Mexico's market share in California and new interstate pipeline capacity to serve California are of critical concern. Over the last five years these issues have been addressed by the Commission in a number of forums. Enclosed you will find California's Energy Outlook - 1987 Biennial Report, 1987 Fuels Report, Appendices - 1987 Fuels Report, Model Results for An Economic Evaluation of Alternative Interstate Pipeline Projects to Serve California (March 1989), Southern California Gas Company's 1987-88 Curtailment (May 1988) and Southern California Gas Company's Summer 1988 Curtailment (February 1989). Each of these reports addresses, from a California perspective, the concerns, policy options and conclusions reached regarding natural gas.

The California Energy Commission is the responsible State agency charged with assessing the long-term trends related to fuel supply and demand. Within this responsibility, natural gas has had a prominent role and has been the subject of many public hearings. At issue in California has been the need for additions to the interstate pipeline system. As you

Mr. Jeff Bingaman, Chairman  
Page 2  
July 5, 1989

are aware there are a number of proposals to increase the interstate pipeline capacity to California. Each of the proposals offers different transport options and access to distinct supply regions. The Commission has been interested in the benefits to California consumers from an expansion of any of the proposals. For this reason an analysis has been undertaken. While the California Energy Commission has yet to adopt any conclusions the marketplace has been provided with relevant economic information by which options can be judged.

The issue of coal seam production in the San Juan Basin has come up several times in the course of our discussions with interested parties. The Commission has become aware of new information from several sources which assess the potential of this resource. We are working with a number of organizations, with interests and expertise in this area, to update the representation of coal seam gas. The Commission is confident that this ongoing process will produce an integrated analysis of the pipeline decision question which will contribute significantly to the quality of the ultimate decision.

Once again, thank you for the opportunity to contribute to the deliberations of your Subcommittee. The California Energy Commission also stands ready to provide further information or answer any questions you may have.

Sincerely,



RICHARD A. BILAS, Ph.D.  
Commissioner

Enclosures

SUBCOMMITTEE ON MINERAL RESOURCES  
DEVELOPMENT AND PRODUCTION  
OF THE  
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

June 29, 1989  
Farmington, New Mexico

Meridian Oil appreciates the opportunity to speak to you today. Of the several topics identified by the Subcommittee for discussion at today's hearing, we will direct our comments to the issue of coal seam methane gas development in New Mexico.

Farmington is one of four regional offices of Meridian Oil. The Farmington Region's properties are concentrated in the San Juan Basin. The Farmington Region is Meridian's dominant gas-producing region, accounting for 79% of its gas reserves and 45% of 1988's daily gas production. Approximately 17% of Meridian's 1987 capital expenditures and 49% in 1988 were made in this region; and Meridian anticipates 47% of 1989 capital expenditures will be made in this region. Meridian currently produces over 20% of total production from the San Juan Basin, and has had operations in this basin since the early 1950s.

The most significant project in the Farmington Region involves development of the Fruitland Coal Seam gas reserves. As a result of a successful coal seam pilot program that commenced in 1986, Meridian has implemented a multi-year development project which has added significant gas reserves to its asset base. Through December 31, 1988 Meridian spent approximately \$63 million to drill, recomplete or participate in 200 gross wells and expects to spend approximately \$70 million to drill, recomplete or participate in an additional 200 gross wells in 1989. Current gross production from all coal gas wells drilled to date is approximately 150 MMCF per day. Additional expenditures for the associated gathering, water disposal and gas treating facilities through December 31, 1988 were \$12 million and are expected to be \$81 million for 1989.

Production from coal seam gas wells drilled prior to 1991 qualifies for federal income tax credits under the incentive drilling provisions of the Fuel Use Act as modified by the Technical and Miscellaneous Revenue Act of 1988 (the "1988 Tax Act"). The 1988 Tax Act also provides for an indefinite credit carryover of these credits limited by Alternative Minimum Tax.

These nonconventional fuel tax credits have played an integral part to Meridian Oil's development of its coal seam reserves. With the incentives provided for under the current tax law and the technical expertise derived from its operations to date, Meridian Oil feels that the future of coal seam gas development has great potential. Meridian believes that application of this new technology will significantly enhance the production and profitability of coal seam gas for many years to come.

This concludes my testimony. I will be happy to answer any questions that you might have. Thank you.

○